Engineering and Mining Journal

INDEX TO VOLUME 112

July 1 to December 31, 1921

McGRAW-HILL COMPANY, INC.
10TH AVENUE AT 36TH STREET
NEW YORK

Engineering and Mining Journal

INDEX TO VOLUME 112

July 1 to December 31, 1921

EXPLANATORY NOTE

Illustrated articles are denoted by an asterisk (*); book notices and technical papers by a dagger (†).

This index is made comprehensive but concise. Pains are taken to bring together matter belonging to same subject so that when a reader looks up an article he will be cited to related data. Series of simple page numbers following names of mines or companies usually refer to news notes. With a major entry or series of entries may be placed several minor ones, relating to the same subject in order that its history may be followed. If the author's name be known it is the simplest means of reference. Productions are indexed under names of metals and countries or states. The mere juxtaposition of a mineral and geographical name usually signifies an output but may cover other statistical or news matter.

Following is a list of the pages included in the several numbers of the volume by date:

July	2	Pages	1-40
"	9	"	41-80
"	16	"	81-120
"	23	"	121-160
"	30	"	161-200
Aug.	6	"	201-240
"	13	"	241-280
"	20	"	281-320
"	27	"	321-360
Sept.	3	"	361-400
"	10	"	401-440
"	17	"	441-480
"	24	"	481-520
Oct.	1	"	521-560
"	8	"	561-600
"	15	"	601-640
"	22	"	641-680
"	29	"	681-720
Nov.	5	"	721-760
"	12	"	761-800
"	19	"	801-840
"	26	"	841-880
Dec.	3	"	881-920
"	10	"	921-960
"	17	"	961-1000
"	24	"	1001-1040
"	31	"	1041-1080

A

Abbe, C., Jr. ..... Page 224
Abbott, C. E. 383
Abolish Extralateral Rights. Editorial 841
Abrasives—motion pictures 190
Absentee Capitalism. Editorial 522
Acacia, Colo. 474
Accidents ..... †24
—Anaconda's percentage 217, 603
—Industrial Accident Commission of California Engineer Member 803
—Metal Mines, 1920 ..... 787, 904
—Tri-State District Statistics 871
—Utah ore-dressing plants 409
Activity of Mr. Rice. Editorial 43
Adams, A. K.—Death 64
Adams, C. L. 266
Adargas, Chih. ..... •631, 432
Admiral, Wash. 194
Admiralty Zinc Co., Mo. 715
Aerial Transportation—Diamonds 645
African Mining Laws ..... †545
Afterthought Copper Co ..... 267, •286, 287
—vs. G. C. Carson 207, 314, 391, 427
Against Engineer Licenses. Editorial 161
Ageton, R. V.—Socketing hoisting ropes with zinc ..... 2 p. •219
Agnew, G. B. 987
Agnew, J. C. 867
Ahumada Lead, Chih. 388, 831, 1032
Aichan Bee, Wash. 433
Ainsworth, W. F. 188
Air-compressor operation ..... †422
Air-lift calculations (Young) 861
Air Lift—Chino Copper Co. (Anderson) ..... 6 p. •806
Air receiver calculations 244, 885
Air under pressure 535
Ajax, B. C. 149
Ajax, Colo. 514, 874
Alabama—Industrial conditions 553, 627, 751, 872, 954, 955
Alabama Land Syndicate 1035
Alabama University—Fellowships 223
Alaska—Appropriation inadequate 470
—Bureau work reorganization 148
—Copper production 629
—Map ..... †825
—Mineral resources and output, 1920 ..... 213, 1027
—Mining activities ..... †143
—Mining conditions 949
—Mining (Rice) 588
Alaska Gastineau Mng. Co. 402
—Editorial 242
Alaska-Juneau, Alaska 748, 871, 992
Alaska (Lyon) 866
Alaskan mineral resources ..... †422
Albany, Minn. 232
Alberta mineral resources ..... †264
—Petroleum 62
Alcaparra, Chih. 431
Alchemy 124, 284, 484, 605
Aldridge, W. H. 426
Algerian phosphate industry ..... Page 290
Algunican Co., B. C. 69
Allan, T. H. 26, 145
Allen, C. E. 1066
Allen, G. L. 28, 743
Allen, R. C. 547
Allied Chemical & Dye Co., Utah 433, 788
Allied Porcupine, Ont. 230, 431
—La Palme Porcupine Mines 671
Alling, G., Dr. 626
Aired, N. C 114, 952
Alsace—Draining oil reservoirs (de Chambrier) 103
Alsatian potash ..... †985
Alta, Col. 389
Alta, Utah 673, 714, 749, 795, 833, 875
Aluminite, Alunite and Cadmium 179
Aluminum—Muscle Shoals 995
—World's output 10
Alunite ..... †662
Alvarado M. & M. Co. Oreskip ..... •20
Amalgamated Asbestos Corp. ..... •367
Amalgamation—Dressing plates (Flury) 578
Amazon-Dixie, Ida. 153
Amber—Discovery Coalmont, B. C. 1070
Ambler, J. O. 987
Ambrose, A. W. 346
American Association for the Advancement of Science—Toronto Meeting 1065
American Brass Co., Mont. 749, 953, 989, 1028, 1067
—Anaconda Merger. Editorial 1041
American-Commander M. & M. Co. 153
American Eagle, Ida. 71
American Engineering Council. See Federated American Engineering Societies.
American Flag Mine, Utah 231
American Frenchman, Colo. 673
American Gem Mng. Syndicate, Mont. 390
American Geographical Society — Latin American Research 707
American Institute of Mining & Metallurgical Engineers—Boston 625, 1026
—Charlston, W. Va., section 223
—Columbia section 105, 304, 387, 584
—Committee Plan. Editorial 42
—Convention 1922 1068
—Membership. Editorial 481
—Mixed Copper Ore Treatment Discussion 1065
—*Mining and Metallurgy* 85, 404, 405
—*Mining and Metallurgy*. Editorial 82, 401
—Nevada meeting 105
—New sections authorized 27
—New York Section 986, 1002
—Presidency 429
—Revival of Mining Industry Discussion 1041
—San Francisco 425, 546, 625
—St. Louis Section 945
—Support. Editorial 401
—Tulsa Section 584
—Wilkes-Barre ..... 423, 7 p. 485
American Iron & Steel Institute Annual Report ..... †702
American Manganese Mfg. Co. 871, 948, 953
American Metal Co. 793
American Mineral Production Co. 28
American Mining Congress—Annual convention 345, 703
—Committee on Metal Mine Regulations. Editorial 2
—Dept. of Mines Bill 144
—October meeting 265
American Petroleum Institute—Chicago meeting 986
American Smelters—Dividends 279, 756
American Smelters Securities Co., Chih. 7 p. 1050
American Smelting & Refining Co., Cal. 868, 912, 952, 989
—Dividends 39, 639
—Half Yearly Report, 1921 679
—Mexico department 69, 150, 353, 553, 712
—Mont. 875
—Utah 432
American Trona 950
American Zinc Institute—Picher, Okla. 913
American Zinc Institute Pioneers. Editorial 1002
—Tariff 350, 428
—Tri-State Branch meeting 834
Amory Stevens, N. M. 912, 1033
Amparo Mng. Co., Jalisco 312, 1048
—Dividends 439, 959
—Report, 1920 72
Ampliacion de Palmira, Chih. 353
Anaconda Accident Rates Editorial 603
Anaconda-American Brass Merger. Editorial 1041
Anaconda Copper Mng. Co., Mont. 113, 154, 231, 355, 555, 593, 672, 714, 749, 833, 875, 912, 948, 953, 993
—American Brass Co. 989, 1028, 1067
—Copper roofing 627
—Davidson Chemical Co. contract 1074
—Reports. Editorial 122
—Shares as Investment (Wolf) 1077
—Taxes 384
—vs. Goon 65
—Zinc 663
Anaconda Copper Shares as Investment (Wolf) 1077
Anaconda's accident percentage 217
Anantapur Gold Mines 830
Anatolian Mines 906
Anderson, B. G.—Mine sampling methods Tyrone, N. M. ..... 4 p. 531
Anderson, H. G. S.—Tailing Air Lift of Chino Copper Co. ..... 6 p. 806
Anderson, J. C. 112, 266
Anderson, L. D. Career ..... •19
Andes, Ariz. 312
Andes Corporation, So. America 183
Anglo-American Corporation of So. Africa 718
Angora—French Exploitation Concession. 788
Angst, R. A. 305, 666
Anita Copper Co., N. M. 272, 1033
Ankerite Extension, Ont. 387
Annapolis, Mo. 954
Annual Progress Number. Editorial 1044
Anselmo, Mont. 231, 555
Ansen, E. 112
Answer to Prospective Correspondents. Editorial 202
Antimony ..... †344
—Durango 170
Apache Powder Co., Ariz. 272, 913
Apex Procedure Defended (Winchell) ..... 2 p. 103
Apex Standard, Utah 71
Aporoma Goldfields, Peru 830
Appleby, W. R. 506
Application of National Defense Tariff Theory. Editorial 202
Applying cost sheet to mine operation. Editorial 122
Aragon, Mich. 434
Aramayo, Francke & Co., Bolivia 198, 711
Arbitration in Guanajuato 762
Arc Diamond, So. Africa 472
Arcadian, Mich. 715, 913, 1071
Archibald, R. S. 109, 188
Arcturus, Minn. 34
Arentz Bill. See "Mining Law Revision."
Argentina Mining (Walker) ..... 4 p. •291
Argentina—Petroleum 262, 984
—Mendoza-Neuquen district (Redfield) 23
Argentine, Ida. 71
Argentine oil and labor conditions (Lamb) ..... 2 p. 221
Argentite—Boom in Nevada 633
Argonaut, Cal. 994
Argonaut, Ont. 552
Arizona—Industrial conditions 955, 751
—Industrial conference 906, 1029
Arizona—Taxation 353
Arizona & New Mexico R.R. 794, 995, 1033
Arizona & Swansea R.R. 794
Arizona Asbestos Association 192
Arizona Barium Co., Ariz. 951
Arizona Commercial—Iron Cap. 873, 989, 1068
Arizona Copper Co., Ariz. ..... 192, 312, •332-3, 349, 630, 951, 988
—Reports, 1920-1921 639
—Sale 586
—vs. Coronado Mfg. Co. 591
Arizona Corporation Commission — Delinquent companies 669
Arizona Hercules 988
Arizona-Jerome Copper Co.—vs. Thos. Smart 69
Arizona-United Mng. Co., Ariz. 632
Arkansas—Phosphate survey 188
—Power 469
—Wildcat Wells 263
Arkansas Fuller's Earth Ref. Co., Ark. 555
Armour No. 2, Minn. 114
Armstead, H. H. 84, 221
Armstead, Ida. 193, 273, 714, 993
Armstrong Bay, Minn. 551
Arnett, W. D. 743
Arnold, E. C.—Death 1027
Arsenic—China—Smelting (Slessor) ..... •895
Asbestos ..... †143, †184
—Asiatic Russia 788
—Black Lake (Hummard) ..... 4 p. •365
—Prices 1912-1920 559
—So. Africa 790
—Twine 965
Asbestos Corp.—Dividends 279, 756
Asbestos Crude & Fibre Corp. 368
Asbestos Mining in the Black Lake Area (Lindsay) 523
Ashland, Mich. 114
Assay reports (Sheldon) 331
Assaying—Low's analysis methods 376, 660
Assays and Assayers, Editorial 41
Assessment work 28, 226, 268, 308, 551, 698, 907
Assessment work and abandonment 577
—Editorial 121
Associated Gold Fields, Ont. 112, 831
Associated Lead Manufacturers 29
Association of American State Geologists. 425
Asuncion Mine, Gto. 31
Atkins, C. T.—Death 787
Atlas, Ont. 69
Attitute of Mining Students, Editorial 561
Augustias, Gto. 31
Aurora, Gto. 271
Australia—Petroleum 901
—Silver-Lead 430
—Zinc situation 236
Australian data ..... †464
Austria-Magnesite—Exports 350
Auxer Gold Mng. Co., Ida. 71, 714
Avalos, Chih. 271
Avery, E. H. B. 743
Avery Island, La. ..... •6
Avery, W. W. 905
Awakening, Editorial 162
Ayan Corp., Ltd., Siberia 745
Ayer, F. 547

403745

B

Babcock, Prof. ... 145
Babine Bonanza, B. C. ... 149
Bacon, D. M. ... 506
Bacubarito Placer Mng. Co., Mex. ... 831
Bacubirito-Sinaloa Gold Placers, Inc., Cal. 591
Badger State, Mont. ... 512
Bailey Cobalt Co., Ont. ... 352, 590
Bailey, F. C. ... 826
Bailey Silver Mines, Ont. ... 591, 1032
Bain, H. F. ... 383
—Bureau of Mines and private investigations ... 3 p. 450
—Mining law revision ... 746
—Undeground developments ... 268, 321
—Zinc ... 148
Bajo, Japan ... 966
Baker, R. C.—Portable acetylene generator for welding ... 779
Balaklala Cons. Copper Co. ... 287
Baldwin, A. R. ... 1066
Balkan, Mich. ... 194
Ball, C. O. ... 26
Ball, S. H.—Mining as seen by Herodotus. 614
Ball and roller bearings ... †985
Ballard, S. M. ... 185
Ball mill—Laboratory (Fahrenwald) ... *579
—Liners (Lawler) ... 44
—Peripheral discharge (Hardinge) ... 683
—Rail linings ... 778, 899
Balls, maverick nature (Lawler) ... 5
Bamberger, E. ... 106
Banks, R. M. ... 787
Bantjes Consolidated ... 149
Barber, M. H. ... 666
Barbour, P. E. ... 26
Barnes, B.—Dignity of engineering ... 205
Barnes-King Dev. Co., Mont. ... 231, 714, 750, 875
—Quarterly Reports ... 397, 1039
Barry Webster, Ont. ... 387
Barstow, Colo. ... 70, 389, 952
Baruch, B. M. ... 110
Barytes—Preparation and Use ... 1061
—Tariff ... 227, 309
Bass, N. F. ... 585
Bastin, E. S. ... 266
Batchelder, B. W. ... 547
Bateman, A. M. ... 106, 506
Bateman, G. C. ... 826
—Water-tight underground dam ... 900
Bates, Mich. ... 194
Bauxite—Alabama ... 995
—Australia ... 907
—United States Production ... 294
Bawdwin, Burma ... 69
Bay Horse, Ore ... 833
Bayonne, B. C. ... 387
Beal, C. H.—Unjust taxation Calif. oil properties ... 2 p. 342
Beans to Bonus, Editorial ... 403
Beaver Cons. Mines Co., Ont. ... 747
—Report 1920-21 ... 159
Beckett, P. G. ... 867, 987
Belanger Chrome Mines, Ont. ... 112
Belcher Islands iron ore deposits (Woodbridge) ... 4 p. *251
Belgian Congo—Radium ... 1010
Belgian metal market ... 225
Belgium—Zinc situation ... 236
Bell, J. W ... 426
Belle Baker, Ore. ... 194
Bell-Mankin, Ore. ... 512
Belmont, Nev. ... 434, 749
Belmont Shawmut M. Co., Cal. ... 513
Belmont-Wagner Mng. Co., Col.—Alta mine 389
Belt, gear and chain drives for grinding mills (Young) ... *3 p. 969
Belts—Side next Pulley ... 1063
Ben Hur, Nev. ... 391
Bendelari, A. E. ... 707
Bender, Ariz. ... 389
Bennett, C. A. ... 106
Bennett-Martin Asbestos Co., Ont. ... 112
Benson, Ariz. ... 312
Benson, W. T. ... 266
Bentonite ... 819
Berkshire, Mich. ... 434
Berry, E. S.—Mining Investments ... 837
Berry, E. W.—Limestones and marls, North Carolina ... †303
Bertha, Colo. ... 354
Best, B. G.—Curve chart for drift work. *101
—Handling ore and timber in removing shaft pillar ... 937
Best Friend, Colo. ... 474
Betts, Nev. ... 1073
Betty O'Neal, Nev. ... 953
Big Cottonwood Coalition Mines Co., Utah *832
Big Creek, Ida. ... 230
Big Dick, Mont. ... 672
Big Dyke, Ont. ... 352
Big Four Mng. Co., Nev. ... 32
Big Ledge Copper Co., Ariz. ... 151, 591
Big Missouri, B. C. ... 590
Bilharz, Okla. ... 913, 977
Bingham-Galena, Utah ... 27, 153, 312
—Editorial ... 162
Bingham Mines Co., Utah ... 433
Bingham & Garfield R.R. ... 795
Biographical Sketches, Editorial ... 762
Bird Creek Mng. Co., Colo. ... 952
Bisbee, D. W.—Death ... 743
Bisbee Deportation, Editorial ... 522
Bischoff, Tasmania ... 586
Bisichi Tin Co. Nig. ... 990
Bismuth—Determination (Critchett) ... 58
—Durango ... 172
—Prices ... 198
Biwabik, Minn. ... 474
Black Hawk Copper Co., Ariz. ... 192
Black Lake Asbestos Area (Hubbard) ... 4p., *365, 683
Black Lake Asbestos & Chrome Co., Que. 112, *365-6-8, 910, 992
—Comments ... 523, 544
Black Metal, Nev. ... 1073
Black Prince Mng. Co., Nev. ... 355
Black Rock, Mont. ... 113, 154, 474, 555, 672
Blackburn, W. H. ... 1027
Blacktail Mng. Co., Ida. ... 231
Blanton, Rep. ... 142
Blast Furnaces. See "Furnaces."
Blasting Mats ... 257
Blewett, Wash. ... 392
Blue Bell, Utah ... 70, 153
Blue Bird, B. C. ... 270
Blue Bird, Ida. ... 33, 273
Blue Horse Mng. Co., Nev. ... 473
Blue Mound, Okla. ... 674
Blue Mountain Mines Co., Ore. ... 71
Blue Nose, Ariz. ... 312
Blue Ribbon, Okla. ... 834
Blue-Sky Legislation ... 470, 950
Bluster Consolidated, Nevada ... 473
Boericke, W. F.—Mule Haulage in Metal Mines ... 853
Bohemian Mng. Co. ... 432, 713, 912
Boleo, Baja, Cal. ... 225, 511
Bolivia—Tungsten—Unique Deposits (Hess) 6 p., *492
Bolshevism, Editorial ... 321
Bonanza Gold Mng. Co., Nev. ... 473
Bonanza King, Cal. ... 911
Bonanza Mines Co., Col. ... 354
Bonardi, J. P. ... 266
Bonneville Dev. Co., Utah ... 107
Boom Derrick—Air Cylinder Operation ... *462
Boras Leasing Co., Ariz. ... 34, 312
Borax—Arizona ... 995
—Callville Wash (Gale) ... 7 p. 524
Borcherdt W. O.—National Geographic Society ... 205
Borden, R. ... 506
Borg, J. ... 224
Boston—American Mng. Co., Wash. ... 512
Boston & Ely Cons. Mng. Co., Nev. ... 314, 953
Boston & Montana Dev. Co., Mont. ... 71, 113, *193, 273, 390, 433, 512, 633, 714, 750, 795, 993, 1074
Boswell Extension, Ore. ... 392
Boswell mine, Ore. (Parks) ... 2 p. *107
Boulder County Metal Mng. Association. ... 952
Bourkes, Ont. ... 831
Bowles, O. ... *305
Bowman, R. E. ... 547
Boyd, J. T. ... 346, 905, 987
Boyd, W. T. ... 192
Boydell, H. C.—Euboean Magnesite Field. 771
Boyle, E. D. ... 466
Brackman, H. D. ... 150
Braden Copper Mines Co.—Report, 1920 ... 119
Bradley, F. W ... 224, 346, 426, 743
—Career ... *980
Bradshaw, F. ... 707
Bramlette, M. N. ... 585
Brandes, C. H. ... 826
Brandy City Mng. Co., Cal. ... 749
Branner, J. C. ... 45
Brayton, C. C. ... 64
Brazil as Mining Country (Packard) ... 8 p. *45
Brazil—Copper ... 51
—Diamonds ... 51
—Gold ... 48, †702
—Iron Ore Mining (Geissel) ... 729
—Manganese ... 48
—Oil Shales ... 47
—Potash ... 47
Briar, J. ... 106
Briber, F. E. ... 506
Bridgeport Iron & Metal Co. ... 269
Bristol Silver Mines Co., Nev. ... 112, 1073
Britannia M. & S. Co., B. C. 628, 744, 991, 1069
British America Nickel Corp., Ont. ... 30
British-American Mfg. Co. ... 1029
British Columbia Chamber of Mines. ... 149
British Columbia—Industrial Conditions. ... 828
—Minerals ... †24
—Radium discovery ... 68
British Columbia Mng. Association ... 871
British Columbia Ore Deposits ... †344
British Columbia Prospectors Association. 68, 191
—Radium discovery ... 68
British Malaya—Mining ... 469
British Opinion of America (Leo) ... 325
Brock, R. W ... 26
Broken Hill—Labor ... 868
—Zinc Concentrates ... 790
Broken Hill Proprietary, Ltd., Austr. ... 306, 471, 508, 589, 746, 947
Broken Hill South, Ltd. ... *830, 947
—Report, 1920-21 ... 879
Brooks, A. H. ... 383
Brown, H. L. ... 585
Browne, W. F. ... 224
Bruce, E. L. ... 905
Bruce, J. L. ... 666
Bruce, Minn. ... 314
Brunne Oil & Gas Co., Man. ... 740
Brunton, F. K.—Copper Blast Furnaces ... 404
Bryce, R. A. ... 266, 506, 546
Buck, S. M. ... 186
Bucket Elevator Improvement (Labbe) ... *380
Bucket Lips—Gold Dredge ... *932
Bucketshoppy (Wolf) ... 697
Budd, C. ... 25
Buena Tierra Mng. Co., Chih. ... 271
—Report, 1920 ... 29, 119
Buffalo, Ont. ... 150
Buley, T. M. ... 106
Bulgarian Mining Conditions (Cook) ... 564
Bulgarian Mining Law (Cook) ... 817
Bull King, Colo. ... 592
Bull Raven, Colo. ... 874
Bullfinch, Austr. ... 909
Bullion, B. C. ... 1070
Bullion Beck, Utah ... 231
Bullwhacker, Nev. ... 833
Bully Hill Smelter ... *286, 287
Bunker Hill, Cal. ... 151
Bunker Hill & Sullivan Co., Ida. ... 33, 225, 349, 869, 1074
—Dividends ... 279, 439
Burch, A.—Career ... *258
Burchard, E. F. ... 64, 145, 666
—Field Work in Philippines ... 4 p. *334
Burden of Taxation, Editorial ... 961
Bureau of Mines—Alaska work ... 148
—Appropriations ...
—Coloring Gems ... 965
—Co-operative Agreements Research ... 550
—Experiment Stations ... 380, 450
—Explosives Investigation ... 979
—Latin American Research ... 707, 722
—Lean Iron Ores Study ... 1059
—Petroleum Industry ... 665, 901
—Precious Metals Station, Nevada ... *214
—Separation problems study ... 1065
—Yearly Report ... 944
Bureau of Mines and Private Investigations (Bain) ... 3 p. 450
Bureau of Mines, War Minerals Investigations (Spurr) ... 500, 570, 651
Bureau of Standards Activities ... †184
Burma—Tin ... 1048
Burma Corp., India ... 29, 191, 350, 909, 973
—Reports, 1918-19-20 ... 958
Burr, W. H. ... 63
Burroughs, A. H., Jr. ... 64, 186
Burrows, A. G. ... 230
Burton, T. E. ... 189
Bush, E. G. ... 867
Bush, J. M. ... 266
Business Survey ... †344
Buskett, E. W.—Zinc Blast Furnace ... 409
Butcher Boy, Utah ... 832
Butler Bros., Minn. ... 793, 953
Butte & Plutus, Mont. ... 33
Butte & Superior, Mont. ... 231, 433, 593, 633, 714, 750, 833, 912, 953, 1034
—Minerals Separation. 33, 66, 349, 548, 875, 907
Butte Main Range ... 433
Butte & Western, Mont ... 231
Butterfly, Colo. ... 313
Butternut, Ariz. ... 151
Buwalda, J. P. ... 185
Buyers' Market, Editorial ... 161
Bwana M'Kubwa ... 510

C

C. O. D., Ariz. ... 913, 1072
Caaba, Wash. ... 230
Cadman, Sir. John ... 1066
Cadmium ... 179
—Germany—Production ... 38
—U. S.—Production, 1910-20 ... 38
Cain, O. ... 826
Calaveras Copper Co., Cal.—Matte ladles. *261
Calaverita, Coah. ... 311
Caledonia Mng. Co.—Report, 1920-21 ... 879
California—Industrial Conditions ... 955
—Metallurgical Progress, Shasta County (Young) ... 4 p. *286
—Oil—Taxation (Beal & Moran) ... 342
—Petroleum Production ... 1064
—Talc Production ... 338
California, B. C. ... 310, 387, 552
California Rand Silver, Inc. ... 32
California Rock Salt Co., Ariz ... 354
Calkins, F. E. ... 426
Callahan Zinc-Lead Co. ... 71, 313, 989
Callbreath, J. F. ... 383
Callow, J. M. ... 64, 145
Callville, Wash., Colemanite Deposit (Gale) 7 p. *524
Calumet & Arizona, Ariz. ... 34, 151, 591, 672, *785, 913, 951
—Copper market expansion ... 627
—Dividends ... 39, 639
Calumet & Arizona Mng. Co., N. M. ... 33, 432, 713, 873, 1072
Calumet & Hecla, Col. ... 713
Calumet & Hecla, Mich. ... 72, 113, 154, 194, 274, 314, 355, 391, 634, 750, 792, 827, 834, 872, 913, 1035, 1070
Calumet & Sonora ... 31
Cam & Motor, Rhodesia ... 386, 747
Campbell, A. A. ... 194
Campbell, D. G. Death ... 1066
—Graphite (Miller) ... 6 p. *207
—Mineral Production ... 791
—Petroleum ... 463
—Tariff—Copper Rods ... 387
Canada, Editorial ... 43
Canadian Institute of Mining & Metallurgy. 105, 304, 546
Canadian Mineral Deposits ... †344
Canadian Oil Fields ... †344, †545
Cananea Cons. Copper Co., Sonora ... 31, 951
—History of Reverberatory Furnaces ... 856
Candelaria Mines, Nev. ... 833, 948
Canterbury Hill—Colorado Tunnel ... 793
Cantley, Col. T. ... 585
Canton, W. R.—Kirtley Iron Riffle ... *180
Caples, R. B. ... 787
Capps, S. ... 106, 585
Carambola, Chih. ... 388
Carbonero, Colo. ... 673
Cardiff, Utah ... 193, 749
Cards on the Table, Editorial ... 441
Caribou Mng. Co., Ida. ... 33
Carlisle, Ariz. ... 389
Carlisle, H. C. ... 585
Carmelita, Chih. ... 831
Carmi, Minn. ... 314
Carmi Mng. Co., B. C. ... 831
Carmichael, N. ... 266, 987
Carnahan, J. S.—Metric Scale for Surveyors ... *101
Carpenter, J. A. ... 506
—Sagebrush Silver Producer ... 4 p. *132
Carpenter, Mich. ... 194, 274
Carpie Mng. Co., Ida. ... 231
Carrier—Diesel Ore ... *52
Carroll, F. ... 305
Carson, G. C., vs. Afterthought Copper Co. 267, 314, 391, 427

Page

Carson Hill, Cal.—Gold Mining (Young)..4 p. *725
Carson Hill Gold Mng. Co., Cal.....112, 177
Cary, Mich. 194
Casados, Jalisco 311, 1048
Cascade Silver M. & M. Co., Mont....154, 433
Casey Mountain, Ont. 229
Cash Boy, Nev. 873, 953
—vs. Tonopah Extension 434, 988
Cassidy, M. E. 305
Castle, Ont 310
Castleton, A. W. 191
Cat Creek, Mont. 740
Catching the Wicked Smelter Trust Red-Handed. Editorial 362
Catern, B. C., death 186
Cavalier, M. J. 585
Cavanaugh, A. F. 266
Cave City, Ark. 984
Cawley, H. E.—Reclaiming Silver Tailing at Coniagas 890
Cedar Creek M. & D. Co., Idaho.....1074
Celtic, Ariz. 389
Census Statistics. Editorial 162
Centennial Eureka, Utah 231
Centennial, Mich. 792
Centennial, Ore. 392
Central Consolidated Mines, Cal. 873
Central Copper Co., Ariz. 1033
Central Eureka, Cal. 151, 513, 673, 1073
—Lubricating hoisting rope *140
Central Mascot, Ariz. 632
Central Mng. & Investment Corp.—Report, 1920 319
Cerro Santa Rosa, Chih..... 431
Chaffin, C. E. 145, 1027
Cham, B. K. 346
Chambers, A. R. 743
Champaign, Col. 514
Champion, Mont. 273
Champion Reef Gold Mng. Co., India..... 711
Chandler, O. K. 954
Channing, J. P. 794
—Copper, Before, During and After War.. 999
Chanute Spelter Co., Kan. 554, 715
Chapin, Mich. 434
Chapman, I. A. 106
Chapman, L. C. 145
Chapman, T. L. 826
Chappell, A. L. 905
Charcoal Iron—Missouri 427
Charlton, D. E. A.—Comin' h'off Shif'.... 218
—Iron Ore Mining in Latin America..5 p. *454
Charters Towers, Queensland 910
Chase, E. E. 826
Chase, R. L. 826
Chemical & Metallurgical Corp.....351, 386
Chemical Industries—Exhibition 519
Chemical Mining & Metallurgical Society of So. Africa 945, 1008
Cherbbono, C. B.—Profitable Mill (Godfrey) *578
Chester, Minn. 34, 154
Chicago-Boston, Ida. 230, 433
Chief Consolidated, Utah 70, 152, 832, 875, 911, 952, 1034
—Dividends 439, 639, 959
—Shaft Sinking Record 146, 188, 267, 306, 376, 587
Chihuahua & Orient R.R. 992
Chihuahua y Oriente, Chih. 1032
Chihuahua Schools 989
Chilberg, J. E.—vs. Davidson 353
Chile—Copper production 97
—Nitrate 16, *136, *378, 1005
—Small-scale mining and smelting (Strache) 97
Chile Exploration Co. ..... †264
—Reports, 1921 .....119, 679
Chillagoe State Smelter, Queensland...29, *147, 350
China—Sulphur and Arsenic Smelting (Siessor) *695
Chino Copper Co.,N. M. 912
—Report, second half 1921 439
—Tailing Air Lift (Anderson) .....6 p. *806
Chipart M. 106
Chipeta, Colo. 389
Chisholm, A. D. 145, 666
Chisholm, Minn.—Tax Controversy 674
Chisholm, Ore. 230, 650
Chisos, Tex. 951
Chloridizing Volatilization (Layng)...5 p. *765
Chope, T. J., death 547
Christner, D. D. 585
Chrome Ores ..... †464
Chromite—Deposits ..... †344
—U. S., 1920 290
Chromium—Low's Analysis methods 375
Chronology of Mining.....514, 274, 795, 954
Churn Drilling, Disseminated Copper Deposits—II. (Rice) .....8 p. *11
Chutes—Protection 20
—Safety Cutout for Trolley Wires..... 18
Cigarrero, Chih. 271
Cinco Minas, Jalisco 312, 510, 1048
Cinema and the Earth Secrets. Editorial.. 282
City Deep, So. Africa 829
Claims Against Mexico (Desvernine)..... †104
Clapp, C. H. 346
Clarinda, Ida. 875
Clark, C. C. 230
Clark, W. A. 113
Clays—Durango 173
Clayton, C. Y. 145
Cleary, E. P. 426
Cleave, Mont. 907
Cleveland-Cliffs Iron Co., Mich. 793, 1071
Cleveland Iron Mines, England 308
Cleveland, Wash. 875
Clevinger Prophet, Ont. 112
Climax, Wis. 114
Clough, W. O.—Deserted Mining Camp..... 298
Clover Leaf, So. Dak. 474
Coal—Production. Editorial 481
—Pulverzing Plant—Michigan Smltg. Co...673
Coarse Ore Transfer (Kemp) 1062
Coates & Tweed, Minn. 953

Page

Cobalt—Durango 172
—Low's Analysis Methods 375
—Queensland 791
Cobalt, Ont. 1032
Cobalt in Jackson Co., Ore. (Kellogg)..... 650
Cobb, H. McL. 69
Cobban, H. B. 946
Cochrane, J. L., death 266
Cockrell, L. M. 466
Cockshutt, H. 1003
Codd, J. W. 153
Coeur d'Alene District—Ore-Dressing Methods Meeting 223
—Welfare (Power) .....2 p. *295
Coggin, N. C. 434, 952
Cohen, S. W. 585
Colbert, C. L.—Nodulizing at Chrome..2 p. *255
Colburn, C. L.—Career *576
Colemanite—Callville Wash (Gale)....7 p. 524
Collier, A. J. 626
Collins, E. J. 987
Colorado—Industrial Conditions ..513, 751, 955
—Industrial Conference 948
—Mining & smelting situation (Walter).. 125
—Smelting Situation 989
Colorado Delta Oil Co., Ariz. 903
Colorado Fuel & Iron Co., Colo..474, 912, 995, 1068
—Dividends 439, 959
Colorado Metal Mng. Association 1071
Colorado Metal Mng. Board, Col. 912
Colorado, Mont. 71, 154, 331
Colorado Power Co., Colo. 713, 1034
Colorado River Commission 1068
Colorado & Southern 1071
Colowyo Gold Mng. Co., Wyo. 114
Columbia Mines Corp., Nev. 32
Columbia Oil & Gas Co., Ark. 984
Columbian Mountain M. & L. Co., Colo.. 273
Columbus Mining Co., Ida. 153
Comfort Kirkland, Ont. 229, 712
Comin' h'off Shif' (Charlton)..... 218
Commerce Mng. & Royalty Co., Okla..554, 674, 913
Committee of Mineral Imports and Exports (Leith) .....6 p. 570
Commonwealth Co., Mo. 715
Commonwealth M. & M. Co., Ariz. 951
Commonwealth Silver Mines Co., Col. 593
Compensation—Accidents—Utah 473
Competition Among the Metals. Editorial.. 1042
Competition of Japanese Mining. Editorial. 602
Compressed Air (Simons) ..... †422
Compressed Air—Ventilation Doors 616
Comstock—Interest Revives. Editorial.... 362
Comstock Lode, Nev. 592
—Sampling Middle Group 434
Concentrating Tables—Covering 399
Concentration by Flotation (Rickard)..... †184
—Place of Jigs in Roughing. Editorial.. 322
—Sorting, Jigging and Tabling (Wiard) 326, 369, *411
Concrete ..... †741
Concrete Storage Bins ..... †545
Concho, Chih. 432
Conditions in Mexico. Editorial 641
Conference at Washington. Editorial..... 881
Confusion Over Assessment Work. Editorial 121
Congress and the Tariff. Editorial..... 201
—Comment 325
Coniagas, Ont. 229, 747, 792, 831
—Reclaiming Silver Tailing (Cawley)..... 890
Consolidated Arizona Smltg. Co., Ariz..70, 669, 713, 1067
Consolidated Gold Fields Co., Yukon..... 191
Consolidated Gold Fields of South Africa.. 950
Consolidated Langlaagte, So. Africa..... 630
Consolidated Main Reef 149
Consolidated M. & S. Co...111, 270, 629, 671
—Ore cash settlements.....1067
—Smelting Rates 587
Cons. Spanish Belt Silver Mng. Co., Nev. 32, 434, 911
Consolidated Virginia, Nev. 151, 274, 473
Consolidated Wilshire Mng. Co., Cal..... 151
Converting Dolomite into Magnesite (Eyoub) 619
—Comment 884
Conveyor Belts—Draining Water (Poston). 822
—Indicator *220
Cook, P. R. 64
—Bulgarian Mining Conditions 564
—Bulgarian Mining Law 817
—Experts for Mining Society Business.... 285
—Profit Sharing 325
Cooley, M. E. 585
Co-operative Experiments with "Gunite." Editorial 323
Co-operative Milling Co., Ariz. 432
Co-operative, N. M. 951, 1072
Copper—Alaska 629
—Analysis—Iodide Method 16
—Brazil 51
—Canada—Tariff 111
—Chile 97
—Churn Drilling (Rice) .....8 p. *11
—Commercial Shapes 738
—Conductivity Standard 299
—Consumption 359
—Converting 738
—Durango 173
—Germany—Market Support..... 118
—Hardening Process (Middlemiss)..... 827
—Investments (Wolf) 677
—Italy—Export financing 108
—Leaching .....†985, 1025
—Market 998
—Market Editorials 203, 561, 751, 843
—Market Expansion Suggestions.....400, 627, 674, 724, 748, 763, 884, 924, 948, 963, 1012
—Michigan 474, 792, 1070
—Montana 875
—Osaka—Production, 1920-21 228
—Prices, 1921 .....559, 838, 1078
—Producers Opportunity. Editorial 601
—Production, 1920 .....†184
—Roofing 604, 627, 663

Page

Copper—Continued
—Sneets 359
—Shetland Islands 385
—Sizing Blast-Furnace Charge (Gillis)... 175
—Smelter production 1910-21 118
—Specifications .....†143
—U. S. Market 638
—Warren District (Mitchell).....4 p. *246
Copper, Before, During and After War (Channing) 999
Copper Giant, Ida. 875
Copper Group, B. C. 149
Copper Mountain Mines Co., Ariz. 672
Copper Queen, Ariz. 713, 748, *785, 977
—Mine blacksmith shop *611
Copper Queen "Congress" 306
Copper Range, Mich. 113, 593, 834, 1070
Copper River & Northwestern R.R..... 949
Copper & Brass Research Association ... 345
Corbould, W. H. 29
Cornejo Blanco, Oaxaca 312
Cornish Relief 144
Coronado Mng. Co.—Vs. Calumet & Arizona 591
Correspondence School, see "Engineering Education."
Corrosion .....†786
Corry, A. V. 905
Cottrell, F. G. Career *338
Cottrell Processes—Phosphoric-Acid Recovery (Landolt) 167
—Recent Applications (Hesson, Landolt, Heimrod) .....4 p. *446
Cowan, W. W. 145
Cox, S. E. J. 945
Creative Chemistry (Slosson) ..... †303
Cresson Consolidated, Colo. 313, 995
Cripple Creek, Colo. 471, 605
Critchett, O. A.—Determination of Bismuth 58
Criticism of Mining Schools. Editorial..... 842
Crocker, W.—Competition solution of industrial problems 443
Cronin, B. C. 712
Crosby, G. H. 471, 605
Crowfoot, A. 987
Crowe, T. B. 905
Crown Mines, So. Africa 190, 829
Crown Reserve, Ont. 591
Crushers—Driving Laboratory *177
—Gyratory—electric vibration used..... 135
Cubo M. & M. Co., Gto. 31, 388
Culross Island M. & M. Co., Alaska..... 748
Cunningham vs. Insinger 188
Curie, M. S. 26
Curley, Mont. 154
Cushman, J. S.—Limestones & Marls of North Carolina .....†303
Cutout for Trolley Wires at Loading Chutes (Gardner) 18
Cutting Mng. Co., S. D. 555
Cuyuna-Duluth 948
Cuyuna-Mille Lacs, Minn. 114
Cyanidation—Silver (Cawley)..... 890
Cyanide—Duty urged 351
Cyanide Gold Mng. Co., Idaho 833
Cyaniding—Rand 1012
Czechoslovakia—Pyrites 550
—Radium 350, 427

D

Daly, P. Premier Mine suit 744
Damon, Colo. 272
Dardanelles, Ariz. 192
Darwin Silver Co., Cal. 151
Davenport, L. D. 787
Davidson Chemical Co.—Anaconda contract..1074
Davidson Consolidated, Ont. 352, 387, 748, 991
Davidson, J. M. vs. Chilberg..... 353
Davila, M. 64
Davis, Ariz. 748
Davis Daly Copper Co., Mont...231, 390, 512, 593, 633, 749, 869, 912, 953, 1034
—Reports 1920-21 .....679, 1039
Davis, J. A.: 148
Davis, Mich. 34
Davis & Dunkirk, Ariz. 748
Dawson, E. 106, 466
Day, R. J. Mine Blacksmith Shops...5 p. 609
De Chambrier, Paul. Draining Oil Reservoirs by Shafts and Tunnels 103
Dead Horse, Calif. 31
Dead Sea. Petroleum Drilling 505
Dean, Ariz. 794
Decay of timber in return air courses (Harrington) .....4 p. *565
Decreasing costs of production. Editorial. 921
Deep oil wells in Texas (Wolf) 141
Deer Trail, Utah 633
Defense of apex procedure (Winchell)..2 p. 163
Del Mar, A. Filter notes 821
Delury, J. S. 186
Denis, T. C. Black Lake Asbestos Mining. 564
Dennis, G. 826
Dennis, H. B. 313
Denton, F. W. 145, 266, 905
Department of Mines Bill 870
—American Mining Congress Recommendation 144
—Editorial 681
—Shortridge on 28
Depths of molybdenum ores (McIntyre).. 125
Derby, E. L. 266
Derrick mast top *58
Desert prospector (St. Clair) 139
Desert ranges in Mexico. Editorial..... 483
Deserted mining camp (Clough)..... 298
Desvernine, R. E. Claims against Mexico..†104
Detecting small quantities of petroleum (Erickson) .....4 p. *59
Diamond digging .....†662
Diamond drilling .....†24, 399
—Oil exploration 984, 1064
—Tagging holes (Poston) *859
Diamonds, Brazil 51
—So. Africa, 1920 131
Dickerman, A. L. Death 547

Page
Diesel engines ....†741, 873
—Ore carrier *52
Differential flotation ....†464
Dignity of engineering (Barnes) 205
Diller, J. S. 383
Dinkey, A. C. 867
Disarmament Conference. Editorial ..801, 881
Disarmament and the Metals 879
Discrepancy between drilling and dredging results (Smith) 812
Divide Extension, Nev. 72, 434, 592
Divining rods 577, 590, 910
—Editorial 963
—German. Editorial 1042
—Hartford Man's Invention. Editorial ..1043
Dixon, J. Relining a Hardinge mill 1022
Djambi Oil Field of Sumatra (Redfield) .. 5 p. 939
Dobbs, G. G. 298
Dodge, C. A. 383
Dolbear, S. H. 1069
Dolly Varden, B. C. 149, 229, 387, 628-9
Dolly Varden, Col. 713
Dolomite. Converting into Magnesite (Eyoub) 619
Dolores Esperanza, Chih. 149, 270, 353, 388, 591
Dolores, Sa. Eulalia 388
Dome Lake, Ont. 512
Dome Mines, Ont. 230, 270, 310, 472, 590, 792, 951, 1032
—Dividends 279, 756
Dominian, L. 346
Donaldson, S. Death 1027
Donohue, E. J. 666
Donohue vs. Tonopah Oriental Mng. Co. ..32
Doubleday, B. Alchemy 605
Douglas Channel Mines, Ltd., B. C. 68
Douglas Lake Indian Reserve 229
Dowell, G. H. 306, 383
Dragline Excavator 890
Dragon, Utah 231
Draining oil reservoirs by shafts and tunnels (de Chambrier) 103
Drake, N. F. 188
Drayer, C. E. 466
Dredge. Bucket lips 932
—Construction at Dayton, Nev. (Young) 6 p. *91
—Transportation at Dayton, Nev. (Young) 2 p. *374
Dredging. Editorial 642
—California operators meet 625
—Discrepancy between results 812
—Results and dredging returns *646-8
Drift work—curve chart (Best) *101
Drill hole results and gold dredge recovery. Editorial 642
Drill steel. Breakage and heat treatment (Perkins) ....†184
—Changes (Young) *461
—Engineers study treatment 429
—Tariff 429
Drilling—Churn. Editorial 3
—Disseminated copper deposits (Rice) ..8 p. *11
Drilling—diamond drill ..†24, *659, 399, 984
—Discrepancy between results (Smith) ..812
—Review (Young) 340, 379, *420, 538
—Rock drill bits. Editorial 361
—Rock-drill machine standardization. Editorial 682
—Rock-drill tests on Rand 671
—Rock Drill Tests, Tri-State District 977
—Rock-drill moving pictures 190
Drilling results and dredging returns (Gardner) *646, *688
—Comments 845
—Correction 805
Drives—Belt, gear and chain ....3 p. *969
Driving laboratory crushers *177
Drum Lummon Mines, Ltd., B. C. 69
Drumheller, J. 787
Drury, Ontario Premier 285
Dumping irons *140
Duncan, D. C. 194
Duncan M. & M. Co., Ariz. 232, 272
Dundee-Arizona, Ariz. 632, 832, 951
Dundee leaching process 69
Dunwoody, Minn. 274
Durango—iron, tin, antimony, quicksilver, sulphur, zinc, silver, gold, lead, copper, nickel cobalt, bismuth, clays, lime, gypsum (Terrones & Rangel) ....6 p. *168
—Mining map *168
Durham, E. B. 305, 310
Dust prevention in mine development ..747, 968
Dutch East Indies—Tin output 669
Dwight, A. S. Career 178

E

E. & E., Ore. 71
Eagle Bird, S. Dak. 474
Eagle, Col. 514, 1072
Eagle, Wash. 433
Eagle Picher Lead Co., Mo. 708
—Dividends 279, 756
Eagle, Utah 70, 153
Early records of Michigan copper industry (Keyes) 776
—Comment 884
East Butte Copper Co., Mont. ..113, 231, 512, 593, 633, 672, 749, 869, 912, 953, 1034
East Kootenay Prospectors Dev. Co., B. C. 228, 270
East Pool & Agar 149, 225, 788, 870
East Rand Proprietary 110, 830, 868, 909
East Washington Oil Co. 1064
Easton, S. A. 223, *503
Eaton, S. F. 145, 466
Eaton, W. J. 547
Eby, J. B. 266
Echoes. Editorial 521
Echoes from the Fraternity. Weekly Feature.
Economic aspects of geology (Leith) ....†303
Economic situation of iron-ore mining in Latin America (Charlton) ....5 p. *454
Page
Economics. Editorials 401, 961
—Standard Mine Cost Statement ....5 p. 126
Economy in Washington. Editorial 121
Eden Creek, Nev. 633
Education. See also "Engineering."
—Chihuahua 989
—Federal Universities (Palmer) 85
—Mining students' attitude. Editorial 562
—Vocational Mine. Editorial 602
Mng. & Met. Society of America 584
Education of the Mining Engineer (Ropes) 844
Eddy, A. E. 64
Edward, M. Witwatersrand Power 667
Edwards, J. W.—death 987
Edwards, Ont. 950
Effect of sizing copper blast-furnace charge (Gillis) 175
Efforts to widen copper market still meager. Editorial 203
Egleston, O. J. 987
Eighty-five Mine—see Calumet & Arizona Mng. Co., N. M. 713
El Bordo, Hidalgo 353
El Capitan, Ariz. 272
El Consuelo, Coah. 228
El Favor Mng. Co., Jalisco 312, 748, 1048
El Oro Gold Dredging Co., Calif. 32
El Oro Mng. Co., Mex. 748, 1032
El Paso & South Western Railroad ..995, 1033
El Rosario, Dgo. 1033
El Salvador Mines Co. 146, 1067
El Tiro Leasing Co., Ariz. 96
Elbow Lake, Manit.—Gold discovery 229
Elder, R. B. 223
Electric prospecting for gold (Kelly) 1044
Electric prospecting in Australia 590, 910
Electrolytic recovery of zinc in Tasmania. 499
Electrolytic Zinc Co. of Australasia, Ltd., Tas. 191, 508, 830, 992
Elementary qualitative analysis of metals and acid radicals (Reeve) ....†184
Elephant Butte Dam 745
Elephant Deep, Calif. 151
Elevator Data—Santa Barbara 1050
Elk Hills, Calif.—Petroleum 863
Elkhorn, Colo. 312, 593
Elliott, E. C. 64
Elliott, R. H. 506
Elliott, S. R. 305
Elliott, W. W. 192
Ellis, E. E. Fair play for graphite 364
Elm Orlu, Mont. 474, 512, 833
Elton, J. A. 787
Ely, F. B. 506
Emancipation, B. C. 149, 628
Emerald, Ariz. 672
Emery, Mont. 672
Emma, Utah 313, 1034
Emmons, W. H. 506
Empire, Cal. 226, 232, 402
Empire Trust Co. 988
Empire Zinc Co., N. M. 1033
Employee representation at Bisbee. Editorial 81
Engels Copper Co., Calif. 592, 873
Engineer, Editorials 441, 922
Engineer, B. C.—Suit 587
Engineer (Hammond) ....†104
Engineer Member, California Industrial Accident Commission. Editorial 803
Engineering and Mining Journal—News Service 483
Editorial 442
Engineering Council. See "Federated Amer. Eng. Societies."
Engineering, Dignity (Barnes) 205
Engineering Education—American Mining Congress on 704
—Commercial application 125
—Correspondence School (Graupner) 44
Comment (Eyoub) 245
—Editorials 562, 802, 842
—Mng. & Met. Society of America on 742
Comment (Ropes) 844
—Mining schools' function (Holbrook) 706
—Pennsylvania State College Plan 625
—Practical use of theoretical knowledge (Lloyd) 53
—Princeton mining school 144
—Seven year course 245
—Society for promotion of engineering education meeting at Yale 63
Engineering Index (A. S. M. E.) ....†422
Engineering Progress. Editorial 402
Engineers—International meeting 425
Engineers—Registration in Minnesota 308
Engineers, Licensing—Boston Section A. I. M. E. 625
—Editorial 161
Comment (Smith) 324
—Mng. & Met. Society of America on 382
—Opposed (Eyoub) 484
—Utah 905
Engineer's Luck, Colo. 273
Engineers à la Mode (Walker) 84
Enos, G. M. 64
Enriques, E. 305
Erickson, E. T.—Detecting small quantities petroleum ....4 p. *59
Erupcion Mng. Co., Chih. 228, 311, 388, 431, 911, 1032
Escuadra, Oaxaca 312
Espada Mines Co., Nayarit 312
Esperanza, Coah. 353
Esperanza, El Oro. 311, 870
Estabrook Dredge, Calif. 911
Estes, F. M. 867, 905
Esthonian oil-shale industry 544
Ethics. Editorial 883
Etowah Coal & Iron Co., Ala. 1035
Euboean magnesite field (Boydell) ..5 p. *771
—Comment 885
Eurades Mng. Co., Colo. 232
Eureka, B. C. 511
Eureka Croesus, Nev. 833
Eureka Hamilton M. Co., Nev. 513
Eureka Hill—Dividends 959
Eureka Holly, Nev. 833
Page
Eureka, Lilly, Utah 231, 832, 911
European Conditions (Mathewson) Editorial 1
Euterpe Mng. Co., Kans. 834
Eveland, A. J. 266
Evening Star, Calif. 592
Examining Minerals in Ore Pulp (Fry) 1063
Existing vertical boundary regulations on American soil—Editorial 842
Expanding News Service. Editorial 483
Experiment Stations—Bureau of Mines (Bain) ....386, 3 p. 450
Exploration (Williams) 645
Explosives 979, 1020
—Keeping qualities 1061
—Ontario competition 590
—Size of powder 862
—Standard specifications 626
—Storing carbide 972
Export Trade—Altering depression. Editorial 243
Comment (Lawler) 324
Exports. See also names of minerals, etc.
—Domestic classification 1030
—Minerals discussion 870
—Ores and metals ..38, 198, 359, 559, 799, 959
Eyoub, D. Converting dolomite into magnesite 619
—Licensing engineers 484
—Why the Mining Engineer 604
—Work vs. Rainbow Chasing 245

F

Factors of safety. Editorial 883
Fahrenwald, A. W. 223, 826
—Convenient laboratory ball mill *579
Fairbanks, Alaska—Bureau work reorganized 148
Fairlie, M. F. 826
Fake assays and assayers. Editorial 41
Falcon Mng. Co., Alaska 30
Fall, A.—on War Minerals Relief Act 148
Falls Creek, Ida. 33, 273
Famatina Copper Mines *291
Fath, A. E. 305
Fatigue of Metals (Kreuzpointner) 216
Faulds, A. Death 106
Fay, A. H.—Career *657
Febles, J. C. 905
Federal Board for Vocational Education—Mining education. Editorial 602
Federal Iron & Steel Corp., Wash. 992
Federal M. & S. Co., Idaho 1074
Federal M. & S. Co., Okla. 750, 988
—Dividends 39, 639
—Star Mng. Co. suit 869
Federal Reserve System ....†24
Federated Amer. Eng. Societies. Committee on Foreign Relations 144
—Industrial accident commission engineer member 803
—Licensing. Editorial 161
—Loyalty to. Editorial 1011
—Minerals relief procedure 585
—Service 866
Federated Malay States—Tin 950, 1048
Ferguson, H. G. 188, 346
Ferguson, Ont. 950
Ferro-alloys ....†143
Fettling 857
Field, T. E. 585
Field work in Philippines (Burchard) .4 p. *334
Filer & Innes 553
Filter notes (Del Mar) 821
Filtering flotation concentrates 217
Finance. Editorial 642
Fink, G. J. 145
Finland—Iron ore 656, 896
Finlay, J. R. 106, *946
—Permian Revolution in North America ..1058
Finley, R. W. 194
Finnie, O. S. 707
First aid and rescue work in mining (L. G. Irvine) ....†741
First Thought, Wash. 433, 512
Fish Creek, B. C. 387, 511, 910
Fitch, W., Jr. Co.—Shaft sinking record. 146, 188, 267, 306, 376, 587, 832
Flagg, A. L. 305, 466
Flin Flon 69
Florence Silver Mng. Co., B. C. 352, 1032
Florence, Nev. 152, 355
Florida—Phosphate mining (Lloyd) ..5 p. *86
Florida Mng. Co. 88
Flotation ....†741
—Acid and slimes in (McLeod) 213
—Colloidal pitch as reagent 56
—Gröndal Process *215
—Wolf's invention 789, 827
Flotation experiments. Editorial 643
Flotation Froth (Sundt) 983
Flotation of pyrite ....†464
Flotation Research ....†344
Flotation testing ....†422
Flotsam and jetsam. Editorial 203
Flow Sheet—Santa Barbara 1050
Fluid, mud-laden under pressure (Steiny) .*182
Fluorspar ....†344, †464
—Separation of zinc from 1065
Flury, C. Dressing amalgam plates 578
Foote, A. B. 506
Foote, F. W. 585
Force, Ore. 230
Ford, H. Editorials 323, 441
—Imperial Mine 267, 586
—Muscle Shoals 146, 1035
Editorial 961
Fordney Bill. See "Tariff."
Foreign vs. domestic business (Ropes) 167
Foreign Exchange. Conference proposed. 629, 669
—Editorial 761
Foreign Trade. Editorials 123, 961
—Hoover address 150
Ft. Payne Coal & Iron Co., Ala. 1035
Forum River Tin Co., Nig. 990
Foss, M. H. 506

Page

Fossil oil field 421
Foster, L. E. 106, 787
Foster, L. H. 426
Foster, P. L. 585
Foundation in tariff thinking. Editorial .. 201
Founder Societies—Joint meeting 707
Four Metals Co., Wash. 230
Fowler, S. S. Mining law revision 1005
Fox, J. M. 266
Fraction, Colo. 354
France—Zinc situation 236
Franklin, B. C. 630
Frantz, C. M. 426
Frasch, H. 606
Fraser, Minn. 232
Freeport Sulphur Co., Tex. 27
Freight—Shipments New Mexico 1072
Freight-Rates—Colorado 913
—Copper, Calif. 151
—Gold Hunter Co. Rio Grande case settled. 508
—Idaho reduction 225
—Iron ore 667, 1028
—Iron ore hearing Lake Superior .226, 674, 1069
—Nevada 869
—New Mexico 873, 1033
—Northwest increase 469
—Southwestern States 672, 748
—Utah 354, 947
Freight rates on farm and mine products. Editorial 1001
Fremont, Calif. 151
—Water skip *181
French Creek iron mine (Hubbell) .. 2 p. 1009
—Guarding chute lips *659
—Sinking pump substitute *660
Frontier, Ont. 748, 950
Fry, A. T. Minerals in ore pulp 1022, 1062
Fuel oil in Chile 624
Fuller's Earth—U. S. Production 1920 ... 410
Fuller's Earth in Florida (Lloyd) 860
Fume precipitation ..... 4 p. *446
Furnaces, Blast—Copper 250
—Scale-forming matter in jacket water .. 90
—Sizing copper charge (Gillis) 175
Comments (Brunton) 404
—Zinc (Buskett) 409
Furnaces—New roasting 491
—Reverberatory (Thum) 924
Future of Mining. Editorial 921
Future of small-scale mining and smelting in Chile (Strache) ..... 2 p. 97

G

Gabbro Copper Mines, B. C. 590
Gagnon, Mont. 390
Gaika Gold Mng. Co. 870, 950
Gale, H. S. 987
—Callville Wash Colemanite Deposit .. 7 p. 524
Galena Mng. Co., Utah 833
Ganister 537
Garbarini, V. S. 1027
Gardella, L. 194
Gardner, C. W. 603, 642
—Drilling results and dredging returns ... *646, *688
Gardner, E. D. 987
—Safety cutout for trolley wires at loading chutes 18
Garfield, Utah 432
Garhardi, G. H. 149
Garrey, G. H. 106, 826, 1027
Garvin, C. J. 145
Gas, Natural. See also Petroleum.
Gas—Arkansas 23
—Noxious, Determination 891
Gas in flooded mines 297
Gases from fire extinguishers ..... †143
Gases in rock strata East Tintic district 852
Gate for ore bins *659
Gavilanes, Dgo. 09
Geery, L. D. T. 145
Geissel, H. M. Italian sulphur production 1913-20 138
Gem Mining Co., Col. 432, 593
Gem Mng. Co., Mont. 113
Gem, Ore. 194
Gemini, Utah 1073
Gems—Coloring (Bureau of Mines experiment) 817, 965
General Mining & Finance Corp. 227
Geneva, Mich. 34
Geological Congress—Belgium 425
Geological methods of the Homestake Mng. Co. (Wright & Osted) ..... 3 p. *886
Geological Survey, U. S. See "U. S. Geological Survey."
Geology—Permian Revolution in North America (Finlay) ..... 2 p. 1058
—State Geologist, Utah 947
Geology and resources of Trinidad ..... †545
Georgetown Mng. Co., N. M. 354
Georgiades, P. A. Gold Mines at Sardis .. 1044
German Divining Rod. Editorial 1042
German economics and German propaganda. Editorial 1002
German example of Technical Society Publication. Editorial 402
Germania, Mich. 793
Germany—Cadmium Production 38
—Copper Market support 118
—Sulphur Industry 254
—Zinc 236
Germany again to the fore. Editorial ... 83
Gertie, Idaho 153
Getting tariff out of politics (Sheldon) . 84
Gibbs, J. M. 31
Gila Monster, Ariz. 70
Gillespie, N. M. 34
Gillies, D. B. 266
Gillis, H. B. 707
—Inverted siphon tap for matte settler .. *300
—Is moist air desirable for copper blast furnace 250
—Sizing copper blast-furnace charge ... 175
Gillmore, Q. A. Death 26
Gilman, H. S. 426
Gilmore, L. 194

Page

Gladstone, Cal. 391, 673, 994
Gladstone, Colo. 995
Globe, A. R. 266
Globe, Cal. 673
Globe & Phoenix Mng. Co. 747, 309
Godfrey, S. F. Small but profitable mill. *578
Golconda, Colo. 673
Golconda, Mont. 433
Gold—Brazil 48
—British Columbia 628
—Durango 172
—Electrical Prospecting (Kelly) 1004
—Imports 839
—Mexico production 1920-21 479
—Ontario production 479, 135
—Reserve 1026
—Taxation excess profits 429
—Transmutation 124, 284, 484, 605, 1042
—Transvaal—Production 1917-21. 38, 198, 1069
—Treatment charges 862
—U. S. 1920 959
—Venezuelan Guiana 910
—Yukon production 591
Gold bonus. Editorial 801
Gold Bonus Bill. See "McFadden" 1031
Gold Bud Mng. Co., Colo. 952
Gold Canyon Dredging Co. 91
Gold Concession—Siberia 550
Gold Crown, Colo. 70
Gold Discoveries:
—Alaska 271, 353
—Bourkes, Ont. 150, 228
—Cariboo, B. C. 712
—Goudreau, Ont. 230, 388
—Grass Valley, Nev. 391
—Holmes Township 30
—Lillooet, B. C. 590, 910
—Luning, Nev. 391
—Manitoba 229
—New Mexico 789, 873, 912
—North Mosquito, Col. 713
—Ontario 831
—Queensland ..... [illegible]
—Rankin, Ont. 587
—Rechtersveld 991
—Toole Field, Mont. 993
—West Africa 830
Gold Distribution—Editorials 961, 962
Gold Feather Mng. Co., S. D. 555
Gold gravel, Cal. 673
Gold Hill, Cal. 911
Gold Hill, Nev. 226, 274
Gold Hunter, Colo. 832
Gold Hunter, Ida. 874
—Rio Grande rate case 508
Gold Island, Ont. 111, 352
Gold milling ..... †741
Gold mining at Carson Hill, Cal. (Young) 4 p. *725
Gold placer mining—Johnnie, Nev. 633
—Drilling and dredging (Gardner) .. *646, *688
Gold premium—Australia 552
—So. Africa 22
Gold prices—Stabilization 630
Gold Prince Mng. Co., Ariz.—L. McAvoy suit 827
Gold Quartz & Placer Association, Ore... 993
Gold Standard. Editorial 281
Gold Star, Cal. 911
Gold Tread, B. C. 310
Gold Value. Editorial 83
Gold Wave, Colo. 713
Golden Crest Mng. Co., S. D. 555, 1072
Golden Cycle M. & R. Co.—June 1921 dividend 39
—Treatment Rates 862
Golden Empire Co., Colo. 151
Golden Feather, S. D. 1072
Golden Jubilee, Cal. 112
Golden State, Nev. 473
Goldfield Deep Mines, Nev. 391, 994
Goldfields of Venezuela, Ltd. 910
Goldsmith, Mont 71
Good Hope, Calif. 391
Goodale, C. W. 506
Goodwin, L. H. 346, 506
Gooselake, Cal. 391
Gottsberger, B. B. *186
Goudreau, Ont. 512
Government Bureaus—Reorganization. Editorial 601
Government Expenditures. Editorial 121
Governmental research through industrial Laboratories. Editorial 482
Gow, P. A. 466, 905, 946
Grabau, A. W. Textbook of geology ..... †662
Gradenwitz, A. Shaft-testing apparatus .. *260
Graham Island shales 62
Graham, S. N. 266
Grainger, J. A. Death 946
Granby, B. C. 154, 191, 511, 628, 910, 1070
Grand Central, Utah 153, 231, 1034
Granite, Colo. 112
Granite-Poorman, B. C. 831
Grant, W. H. 26, 186
Graphite—Marketing 738
—Tariff 470
Graphite and tariff on minerals (Smith & Pawl) 204
Graphite industry (Ellis) 364
Graphite industry of U. S. & Canada (Miller) ..... 6 p. *207
Grass Valley, Cal. 673, 911
Gratiot, Mich. 715, 1035
Graupner, M. F. Not even correspondence school engineer 44
Criticism 245
Gray, A. Hollinger Mine 1049
Gray, F. W. 305
Great Boulder Proprietary Gold Mines .. 68, 909
Great Britain—Metalliferous Advisory Committee 25
Great Communistic Experiment. Editorial. 321
Great Eagle Fluorspar Co., N. M. .. 389, 474, 951
Great Northern Ore—Dividend 279
Great Northern Railroad 1029
Great Southern Steel Co., Ala. 954, 1035

Page

Great Western Mng. & Dev. Co., Ore. 993
Great Western Smelting Co., Ariz. 150
Greenway, J. C. 867
Grey Eagle, Ariz. 150
Griswold, G. G. Lead-bullion refining 978
Grit, Calif. 513
Groheigher, A. Alchemist 484
Gröndal flotation process in German concentrating plants *215
Gross, J. R. 383
Grouping of Washington Scientific Bureaus. Editorial 601
Grover, N. C. 585
Guajolote, Sin. 831
Guanacevi Camp, Dgo. *173
Guanajuato—Silver situation 30
Guanajuato Cons M. & M. Co., Mex. .. 31, 388
Guanajuato Reduction & Mines Co., Mex. 30, *31, 388
Guatemala—Petroleum (Redfield) .. 4 p. *540
Guelph M. & M. Co., Wash. 392
Guggenheim, D. 106
Gulf Coast sulphur industry (Wolf) .. 3 p. *606
Gulf Petroleum Co., Tex. 701
Gulf Production Co., Tex. 580
Gulf States Steel Co., Ala 628, 954
Gulley, M. G. 224, 266, 305
"Gunite." Editorial 323
—Experiments 226
Gunite—Timber decay (Harrington) 4 p. *565
Guniting—Verde Extension 620
Gust Maki, Wn. 194
Guyer, R. 953
Gympie, Australia 910
Gypsum—Durango 173
—Ireland 453

H

Hackberry Extension Co., Ariz. 192
Hager, D. Oil field practice ..... †741
Haig, R. M. Some aspects of Revenue Act of 1921 1011
Haines, Okla. 834
Haley, D. F. 743
Hamilton, H. T. 547
Hamilton Mammoth Mines, Wash. 194
Hammon Dredging Co., Ida. 714
Hammond, J. H.—The Engineer ..... †104
Hampden, Queensland 191
Hampton, Australia—Gold Discovery 471
Hampton, W. H. Converting dolomite into magnesite comment 884
Handbook for field geologists (Hayes) .. †1025
Hanley, K. J. Death 787
Hanna, M. A. & Co. 793, 872, 1035
Hanna-Pickands-Mather vs. Wakefield 34
Hannay, W. H. 605
Hansen, G. T. 426
Hapsburg Estate—General Real Estate & Trust Co. administrators 439
Harbren, J. Original alchemist 284
Hard To Beat, Colo. 1072
Hardened copper shears. Editorial 963
Harding, W. P. G. 1026
Hardinge, H. W. 145
—Peripheral discharge from ball mill 683
—Rail linings for ball mills 899
Hardinge Mill—Relining 1022
Hardshell, Ariz. 312, 354
Hardwood, Col. 112, 474
Hardy, R. A. 506
Harley, G. T. 867
Harold, Minn. 1035
Harper, R. M. Vegetation and mineral deposits *693
Harrington, D. 968
—Labor turnover at mines 845
—Timber decay in return air courses ..... 4 p. 565
Harris Syndicate, Ont. 112
Harrison, P. G. Railroad rails for ball-mill linings 778
Hartford Instrument. Editorial 1043
Hasbrouck Co., Nev. 232
Hatfield, W. 826
Hattie, Ont. 352
Haughom, O. Molybdenum steel 325
—Hauts Fourmeaux de Noumé, New Cal. 69, 150
Haultain, H. E. T. 305
Hawkins, Minn. 274
Hawley, J. E. 346
Hayden, C. 226
Hayden, Stone & Co.—reports. Editorial .. 122
Hayes, C. W. Handbook for field geologists ..... †1025
Hayes Mng. Co., Mich. 793
Hays, J. F. Death 905
Hayward, M. W. 585
Heald, K. C. 305, 585
Heath, G. L. 626
Heberlein, K. B. 466, 826
Hecht, E. 346
Heck Gold Mng. & Leasing Co., Colo. .. 272, 474
Hecla-Divide Mng. Co., N. M. 272
Hecla Mng. Co. 226, 349
—Dividends 39, 639
Heidelberg, F. M. Santa Barbara 500-ton Mill for Concentration Lead Carbonate Ores ..... 7 p. 1050
Heidenreich, W. L. 305
Heimbach, E. Miner men 377
Heimrod, A. A. Applications of Cottrell processes ..... 4 p. *446
Helium ..... †24, 948
Editorial *723
Henrietta, Ariz. 151
Henton, H. M. 1027
Herty, C. H. 743
Hesperus Mng. Co., Mont. 231, 390
Hess, F. L. 946
—Bolivian tungsten deposits ..... 6 p. *492
Hesson, R. B. Applications of the Cottrell processes ..... 4 p. *446
Hetch-Hetchy, Cal. 472
Hewitt oil field ..... †702

Page

Hibbing, Minn. ... 995
—Removal suit ... 789
Hibschle, Colo. ... 1034
Hickey Copper Co., Ariz. ... 748
Hidden Creek, B. C. ... 628
Hidden Treasure, Colo. ... 389, 673
Hiddenite, N. C. ... 952
Higgins, E. ... 243, 266
High Five, Mo. ... 434
Highland Mng. Co., Ariz. ... 794
Highland Valley Mng. Co., B. C. ... 511
Hill Top Metal Mines Co. ... 869
Hill-Trumbull, Minn. ... 274
Hillcrest, Minn. ... 114
Hillsdale, P. ... 987
Hindrey, W. E. ... 466
Hines, P. R. ... 145
Hirst-Chichagoff, Alaska ... 191
Hirtman, J. Made gold before Dr. Davis did ... 124
History of side-charging reverberatory furnaces ... 3 p. 856
—Comment ... 924
Hixon, H. W. Inorganic origin of petroleum ... 622
Hobert, E. N. ... 305, 743
Hocking, Col. ... 514
Hodge, E. T. ... 64
Hodgson, J. P. ... 987
Hodgson, S. F. ... 506
Hofman, H. O. ... 26
Hofstrand, O. B. ... 186
Hoist Engineer, Editorial ... 243
Hoisting—Device for indicating level. *504, 539
—Safety device ... 938
—Shaft capacity ... 862
Hoisting at Pabst mine ... 1071
Hoisting rope compounds ... *140
Hoisting ropes ... 1030
—Socketing (Ageton) ... 2 p. *219
—Taper ... 936
Hoists ... 925, 1014
Editorial ... 922
Hoists—Compressed air—scraping and loading (Royce) ... 973
Holbrook, E. A. ... 26, 426, 706
Holden, E. C. Mining Odyssey ... *176
Holland, Cal. ... 911
Hollinger Consolidated Gold Mines, Ltd. ... 330, 352, 431, 511, 552, 631, 712, 881, 1032
—Dividends ... 279, 439, 639, 756, 959
—Report, 1920 ... 879
Hollinger Mine (Gray) ... 1 p. 1049
Holmes Township—staking rush ... 30
Homestake, Idaho ... 313
Homestake Mng. Co., So. Dak. ... 474, 1072
—Dividends ... 39, 279, 439, 639, 756, 959
—Geological methods (Wright & Hosted) ... 3 p. *886
Honduras Petroleum Co. ... 146
Hoots, H. W. ... 585
Hoover, H. C. ... 105
—Colorado River Commission ... 1068
Hoover speech, Editorial ... 123
Hopkins, E. W. ... 305
Horn Silver, B. C. ... 111
Hornet, Cal. ... 994
Hoskin, A. J. ... 506
Hosted, J. O. Geological methods of the Homestake ... 3 p. 886
Houghton, S. ... 151
How land grows ... †662
How to get back to hard money, Editorial. 62
Howard Copper Co., Ariz. ... 232
Howe Sound Co.—report 1920 ... 39
Hoyland, H. B.—vs. H. A. Smith ... 832
Hubbard, W. D. Black Lake asbestos area ... 4 p. *365, 683
Hubbell, A. H. French Creek iron mine. ... 1009
Hudson Bay, Ont. ... 387
—Annual report ... 792
Hudson, H.—vs. Sunset Co. ... 354
Hudson Mng. Co., Nev. ... 1073
Hudson M. & M. Co., Cal. ... 673
Hughart, H. H. ... 192
Hull City, Col. ... 474
Hull, M. R. ... 145
Hull-Rust, Minn. ... 474
Hunner, H. H. Altering incline skip ... *579
Huntoon, L. D. ... 383
Hurst, G. L. ... 106
Hussey, C. G. & Co. ... 724
Hutchins, J. P. Traveling in Morocco ... 3 p. 1006
Hutchins, R. J. ... 905
Hutchinson, W. S. ... 64
Huttig Lead & Zinc Co., Joplin District. 871, 954
Hyde, G. E. ... 106

I

I. X. L., B. C. ... 712
I. X. L., Ore. ... 512
I. X. L., Utah ... 633
Iceland Spar—B. C. Discovery ... 511
Idaho (Coeur d'Alenes)—Industrial conditions ... 751, 828, 955
Idaho—Survey work ... 185
Idaho Gold Corp., Idaho ... 1074
Idaho Gold & Ruby Mng. Co., Ida. ... 993
Idaho Mines Syndicate, Ida. ... 313
Idaho-Montana Amalg. Mng. Co., Ida. ... 71
Illinois—Mines Inspection Act ... 27
Editorial ... 2
Imogene Leasing Co., Colo. ... 952
Imperial Iron Mine, Mich. ... 793, 267, 384, 434, 586, 1071
Imperial Mineral Resources Bureau. Editorial ... 241
Imperial Oil Co. ... 23, 505, 661, 701
Imperial, Ore. ... 71
Importance of the Mineral Industries. Editorial ... 681
Imports—See also names of minerals, etc.
—Ores and metals. . 38, 198, 359, 559, 799, 959

Page

Improvements in nodulizing chrome, N. J. (Colbert) ... 2 p. *255
Income Tax. See "Taxation."
Independence, B. C. ... 671
Independence Mng. Co., Ark. ... 871
Independence & North Star Mines, Ida. ... 33
Indicator for belt conveyor ... *220
Indooroopilly, Queensland ... 910
Ingalls Committee. See also "Mining Law Revision."
—Bill on new mining code ... 110, 148, 308
Ingersoll-Rand Co.—on Tariff drill steel. . 429
Inglaterra, Chih. ... 271
Inglis, J. F. Copper roofing ... 604, 787
Inland Steel Co., Minn. ... 948, 953
—T. Keating Co. ... 948
Innes, M. ... 64
Inorganic origin of petroleum (Hixon) ... 622
—Comment (Thayer) ... 724
Insinger vs. Cunningham ... 188
Inspiration Consolidated, Ariz. ... 70, 150, 913
Instruments—Mineral locating ... 577
Interest in the Comstock revives, Editorial. 362
Intermountain Development Co., Cal. ... 1073
International Chamber of Commerce meet. 223
International Nickel Co., Ont. ... 225, 384, 430, 948, 992
—Annual report ... 76
—Dividends ... 439, 959
Internatl. Oil & Ref. Co., Ariz. ... 263
International Smelting Co. ... 33, 70, 150, 794, 832, 951
Interstate Commerce Commission—Freight rate hearing ... 226, 674, 1069
Interstate Iron Co., Minn. ... 114, 793, 872
Introduction to the study of minerals and rocks (Rogers) ... †702
Investments (Berry & Yeatman) ... 837
Iodide method for copper ... †422
Ireland—Gypsum ... 453
Ireland, J. D. Death ... 987
Iridium ... 981
Iron—Birmingham District ... 553, 627, 872
—Durango ... *169
—Lean Ores Study by Bureau of Mines. . 1059
—Minnesota ... 869
—Upper Silesia, Poland ... 989
Iron and steel in Sweden ... †422
Iron and Steel Institute, Great Britain—Meet in Paris ... 465
Iron Blossom, Utah ... 231, 875, 952
Iron Cap Copper Co.—Arizona commercial suit ... 873, 989, 1068
Iron Creek, Wash. ... 194
Iron King, Utah ... 231
Iron Mask, Mont. ... 433
Iron Ore—Brazilian Mining (Geissel) ... 729
—Finland ... 656, 896
—France discovery ... 428
—Freight rates ... 667, 1028
—Great Lakes ... 674, 947, 1069
—Latin America Economic situation (Charlton). . 5 p. *454
—Sweden ... 896
—World resources ... 889
Iron-ore deposits on Belcher Islands (Woodbridge) ... 4 p. *251
Iron ore—Prices ... 27
Iron ore resources of Europe (Roesler). . †184
Irvin, D. F. New price levels in Chilean nitrate ... 3 p. *136
Irvine, L. G. First aid and rescue work in mining ... †741
Isabella Gold Mng. Co., Colo. ... 312
Isabella, Mich. ... 793
Ishikawa, N. Narukiyo Mng. Co., Ltd. . 966
Italy—Copper—Export financing ... 108
—Leucite production ... 52
—Sulphur production (Geissel) 1913-20. . 138

J

Jack, R. L.—Salt & Gypsum Deposits, So. Australia ... †143
Jaegers, Nev. ... 391
Jalisco, Mex. — Recent Developments (Payne) ... 3 p. 1045
James, A. ... 106
Career ... *818
Jamison Gold Mine, Cal. ... 994
Janin, C. ... 266, 946
Janney, F. G. ... 106
Japan—Minerals production ... 508
Japanese Mining, Editorial ... 602
Jardine Mng. Co., Mont. ... 390
Jefferson Island Salt Co. ... 348
Jenkins, O. P. ... 186, 383
Jenks, T. H. ... 585, 987
Jennie A., Nev. ... 274
Jennings, S. ... 787
Jerome-Superior Copper Co., Ariz. ... 951
Jerome Verde Copper Co., Ariz. ... 832
Jerome-Verde Dev. Co., Ariz. ... 995
Jerry, Col. ... 474
Jewel, B. C. ... 229
Jewell, S. ... 666
Jigging—Roughing concentration (Wiard) ... 326, 369, *411
Jigs—Air ... 896
—Roughing concentration, Editorial ... 322
—Suction (Neill) ... *644
—Thawing device (Kemp) ... 900
Jim Butler, Nev. ... 391, 633
Jim Crow, Ariz. ... 389
John Gariel, B. C. ... 387
Johnnie District, Nev. (Labbe) ... 895
Johnson, B. L. ... 905
Johnson, Matthey & Co., Ltd. ... 198
Johnson, V. D. ... 305
Johnsons Co., Ont. ... 112
Jones, E. H. ... 506
Jones, G. H. ... 867
Jones, I. O. ... 547
Jones, J. R. ... 946
Joplin-Miami District. See also "Kansas," "Missouri," "Oklahoma."
—Labor situation ... 554, 793

Page

"Journal" to Publish Annual Progress Number, Editorial ... 1044
Judge M. & S. Co., Utah ... *152-3, 231
Judson Land Co., Mich. ... 554
Julieta, Chih. ... 271
Juniper California Mines Co., Cal. ... 314
Jussen, H. C. ... 867

K

Kaeding, C. D. ... 905
Kaffer, S. L. ... 707
Kalagner, H. M. ... 383
Kanok Metal Co. ... 715, 750, 1035
Kansas Bureau of Mines Survey Milling Problems ... 1065
Kansas (Joplin-Miami)—Industrial conditions ... 751, 955
Kaolin—Imported vs. domestic ... 299
Karwer, W., N. M. ... 34
Katanga, Union Minière ... 190
Katherine, Ariz. ... 995
Katherine Extension, Ariz. ... 794
Katherine-Nevada, Ariz. ... 232
Keating, J. J. Death ... 224
Keating, P. H. Slide rule in surveying calculations ... 822
Keating Co., T. ... 948
Keech, V. ... 466
Keeley, Ont. ... 230, 712, 792
Kelley, C. F. ... 113
Kellogg, A. E. Cobalt in Jackson Co., Ore. 650
—Sylvanite Gold Mine, Ore. ... 548
Kellogg, L. O. National Geographic Society ... 484
—Profit sharing in mining ... 124
Kelly Mine, Calif. ... 391, 513
Kelly Mine, Calif. (Carpenter) ... 4 p. *132
Kelly, S. F. ... 266, 826
—Electrical prospecting ... 1004
Kelly, W. ... 266
Keltner Mng. Co.—Purchase Southern Lead & Zinc Co. ... 834
Kemp, J. T. Coarse Ore Transfer ... 1062
Kennedy, Calif. ... 32, 112, 472, *504
Kennedy, J. B. ... 383
Kennedy, Minn. ... 114, 355, 553
Kennelly, A. E. ... 585
Keno Hill, Yukon ... 350
Kent, F. ... 905
Keora, Ont. ... 230, 352, 387
Kern, P. ... 867
Kerr Lake Mines, Ont. ... 150, 431, 630, 712
—Annual report 1921 ... 756
—Dividends ... 279, 756
Keyes, C. R. Early records of Michigan copper industry ... 776
Keystone, Ariz. ... 632
Kidder, S. J. ... 743
Kiddie, J. ... 987
Kilburn, G. H. ... 426
Kiln—Nodulizing improvements (Colbert). ... 2 p. *255
Kimball, L. V. J., Romantic geologist. Editorial ... 1003
Kimman, H. J. Death ... 547
King-Brand, Kan. ... 871
King Kirkland, Ont. ... 748, 950
King Mica Co., S. D. ... 1072
Kingman Cons. Copper Co., Ariz. ... 432
Kirby, B. C. ... 68
Kirby Petroleum Co., Tex. ... 580
Kirk Gold Mines, Ont. ... 150, 552
Kirkham, V. ... 547
Kirkland Lake Gold, Ont. . 150, 508, 631, 951, 1022
—Report 1920-21 ... 199
Kirtley Iron Riffle (Canton) ... *180
Kislingbury, G. D. Death ... 787
Kitamura, H. Narukiyo Mng. Co., Ltd. . . 966
Kitchner Mines, B. C. ... 910
Kittimac, Colo. ... 874
Kloman, Mich. ... 872
Knickerbocker, A. K. Swift growth of manganese ore ... *770
Knight, C. W. ... 26, 1032
Knopf, E. B. ... 266
Knotts, E. K. ... 69
Knox Divide, Nev. ... 152, 391
Knox, W. K. ... 383
Kreuzpointner, P. Fatigue of metals. ... 216
Kriegh, W. McK. ... 266
Kurz, F. E. ... 466
Kyner, T. ... 506

L

La Bajada, Dgo. ... 563
La Dorada, Chih. ... 1033
La Luz, Zac. ... 432
La Palme Porcupine Mines, Ont. Allied Porcupine Gold Mines ... 671
La Perlita y Anexas, Coah. ... 150
La Reina, Chih. ... 271, 388
La Rose, Ont. ... 387, 431, 512
La Rue, Minn. ... 232
La Salle, Mich. ... 750
Labbe, C. Bucket elevator improvement. . 380
—Placers of Johnnie District. ... 895
—Telescope bar for narrow stopes. ... 822
Labor—Alabama ... 954
—American ... 1030
—Arizona ... 748
—Broken Hill ... 868
—Burma ... 972
—California ... 31, 911
—Calumet and Hecla ... 827
—Coahuila Strike ... 311
—Colorado wages ... 995
Editorials ... 81, 282, 322, 441, 521, 602, 603, 921
—Employee representation at Bisbee. . . 65, 306
Editorial ... 81
—Employment situation in metals ... 269
—Guanajuato arbitration ... 385, 762
—Idaho wage scale ... 71
—Illinois union trouble ... 467

Page

Labor—continued
—Japan and U. S. Editorial 602
—Joplin-Miami 554, 793
—Lake Superior District—Unemployment. 509
—Michigan wage cut 274, 434
—Minnesota 872
—New Mexico—Wage reduction 1033
—Oliver Iron Mng. Co. wage scale..... 634
—Ontario wage cut 508
—Porcupine wage scale 310
—Port Pirie 306
—Queensland 29
—Rand 309, 471-2, 510, 788, 868
—Roodepoort plan. Editorial 603
—San Joaquin Valley strike.....580, 701
—Tonopah-Divide strike 151, 267, 307
—Transvaal 552
—Truax picketing case 1030
—Unemployment Committee 588
—Unemployment in mining 509
—Wage problem solution (Crocker) 443
—Wage scale adjustment 425
—Wages and commodity prices. Editorial 563
—West End, Nev., wages 994
—Wisconsin wage scale 994
Labor turnover at mines (Harrington).... 845
Labor's stake in industry. Editorial..... 402
Laboratory instruction (Young) 982
Labrador Exploration .....†344
Ladles—Filling matte .....•261
Laird, G. A. 266
Lake, M. C. 626, 787
Lake Shore Mng. Co., Ont.....30, 149, 229, 361, 552, 991
—Dividends 439, 959
Lake Superior—Iron-ore shipments 1920-21 498
Lake Superior iron ores .....†344
Lake Valley, Nev. 274
Lake View, B. C. 229
Lakeview Silver Mines Co., Idaho 33
Lamb, M. R. Argentine oil and labor conditions 221
Lamont, B. H. 963
Lamps, Carbide, Cleaning attachment.... 399
Lancaster, H. M. 466
Landolt P. E. Applications Cottrell processes .....†4 p. •446
—Cottrell process phosphoric-acid recovery. 167
Laney, F. B. 185
Lanza, A. J. Port Pirie Dept. of Health. 589, 602
—Purifying small water supplies..... 55
Larsen, E. S. 26
Larson, A. G. 826
Las Chispas, Mex. 951
Las Dos Estrellas gold mine .....†545
—Report 1920 39
Las Plomosas, Chih. .....•311
Last Chance, N. M. 272, 632, 1072
Latest in Doodlebugs. Editorial 963
Latham, E. B. 905
Latin America—Economic situation iron ore (Charlton).....5 p. •454
Latin-American maps. Editorial 722
Launder—Supporting Shaking 1057
Laura, Chih. 831
Law. See also "Legislation."
Law—Bulgarian mining (Cook) 817
—Iron-ore rate hearing Lake Superior... 226, 674, 1069
—Mexican mining 823
—Mexican mining titles (Meyers) ...406, 685
Law Suits—Afterthought Copper Co. vs. G. C. Carson 427, 267, 314, 391
—Anaconda Copper Mng. Co., vs. Goon... 65
—Anita Copper Co. vs. Octo Mng. Co..... 272
—Archibald vs. Osborn, Case etc. 109
—Archibald vs. Michigan Land & Iron Co. 188
—Arizona Commercial-Iron Cap..873, 989, 1068
—Arirzona Jerome Copper Co. — Thos. Smart 69
—Bingham-Galena Mng. Co..... 313
—Butte & Superior vs. Minerals Separation 33, 66, 349, 548, 907
—Codd vs. Nabob Cons. Mng. Co..... 153
—Copper Giant vs. Lake, J. G. 875
—Davidson vs. Chilberg 353
—Engineer Mine 587
—Gold Hunter Co.-Rio Grande Rate Case. 508
—Gold Prince Mng. Co. vs. L. McAvoy.. 827
—Houghton Co. vs. N. Masse 715
—Hudson vs. Sunset Co. 354
—Inland Steel vs. Keating 948
—Minerals Separation vs. Miami Copper Co. 146
—Minnesota Taxation 307
—Moffat Railroad proceedings 1071
—Northport Smltg. & Ref. Co. vs. Pfeiffer. 789
—Northwest Magnesite Co. suit 868
—Oliver Iron Mng. Co. vs. McDougall.... 347
—Pittsburgh Plus-U. S. Steel Corp. 1030
—Smith, H. A. vs. Hoyland 832
—South Utah Mines vs. Beaver County.. 672
—Star Mine suit....628, 745, 789, 795, 906
—Star Mng. Co.—Federal M. & S. Co.... 869
—Taylor Engineering Co. vs. G. Wingfield 511
—Tom Reed samples exhibit 272
—Tonopah Extension vs. Cash Boy..... 434
—Truax Picketing Case 1030
—United Verde Extension 354, 951
—Utah-Apex vs. Utah Consolidated..... 390, 433, 467, 672
—Utah Copper Company tailings dump... 193
—Utah fees 225
Law Suits Decisions—Donohue vs. Tonopah Oriental Mng. Co. 32
—Fleming vs. Monte Rico Mng. Co..... 874
—Hanna & Pickands-Mather vs. Wakefield 34
—Hibbing removal suit 789
—Hill Top Metal Mines Co. 869
—Insinger vs. Cunningham 188
—Lucky Five M. M. & R. Co. vs. S. Lucas 632
—Minerals Separation vs. Butte & Superior 875

Page

—Premier mine suit 744
—Southern Minnesota & Washington Mng. Co. Title to Submarine Mine..... 633
—Star-Federal 988
—Tonopah Extension-Cash Boy 988
—Union Sulphur-Texas Gulf Suit 591, 868
—United Verde Extension Biles-Wells case. 632
—Utah Copper Co. Suit 672
—Wolf, J. D. vs. Baldwin.....789, 827
Lawler, E. W. Foreign Manufacturers Offering Better Steel? 324
—How much of ball-mill liners are scrap? 44
—Maverick nature of balls 5
Lawrence, Idaho 875
Lawton, N. D. 145
Lawyers and Geologists. Editorial..... 842
Laying out a job (MacGregor) 899
Layman Bros., Cal. 994
Layman, J. M. 192
Layng, H. R. Chloridizing volatilization. 764
Lazenby, P. H. 145
Le Brun, Colo. 874
Le Roi No. 2, B. C. 387, 430
—Report 1920 119
Leaching—Brackman process 150
—Dundee process 69
Lead—Durango 171, 172
—Low's analysis methods 375
—Market. Editorial 561
—Market study 438, 1038
—Missouri discovery 715
—Prices, 1921 .....559, 838, 1078
—Swatow District 1048
—Upper Silesia, Poland 989
—Zinc recovery from blast furnace slags.. 338
Lead and chewing gum. Editorial 643
Lead-bullion refining (Griswold) 978
Lead Carbonate Ores.—Concentrating Mill.. 7 p. 1050
Lead poisoning in Utah .....†662
Leadville Mines Co., Nev. ...32, 112, 795, 911
Leases, Applications for 949
Least advertised commercial earth product. Editorial 722
Lebel Lode, Ont. 112
Lee, C. F. 64
Lee, H. B. 64
Lee, R. E., Colo. 1034
Lee, T. H. 46
Lee, W. 585, 987
Legislation—Blue Sky Bill.....470, 950
—Department of Mines Bill 144, 681, 870
—Fordney. See "Tariff."
—Gold Bonus Bill. See "McFadden."
—Mineral rights reservation..... 748
—Mining revision. See "Mining Law revision."
—War Minerals Relief Bill. See also "War Minerals Relief." 828, 870, 908
Leib, E. R. Death 26
Leith, C. K. Economic aspects of geology.†303
—War problems in minerals .....6 p. 570
Lemaire, E. 64
Leo, L. M. British opinion of America. 325
Comment (Hannay) 605
Leonard, F. Death 743
Leonard No. 3, Minn. 1035
Lepanto, Chih. 271
Leucite—Italy 52
Level Lode, Ont. 352
Lewis, J. B. Death 743
Liberty Bell, Colo. 354
Licensing Business Man. Editorial 363
Licensing of engineers See "Engineers."
Liddell, D. M. 145
Lightning, Ont. 387, 748
Lilley, E. R. 265
Lime—Durango 173
Limestone .....†545
Limestones and marls of North Carolina (Loughlin, Berry & Cushman) .....†303
Lind, S. C. 106, 383
Lindau, S. P. 626
—Wooden smelter stack .....•257
Lindberg, C. O. 383
Lindgren, W. .....•305
Lindley, C. T. 951
Lindsay, C. C. Asbestos mining in Black Lake area 523
Linney, W. H. 826
Linton, R. 106
Little Grey, Nev. 72
Little Mattie, Colo. 874
Little May, Utah 390
Liverpool, Mont. 154
Lloyd, R. L. 64
Lloyd, S. L. Fuller's Earth in Florida.. 860
—Phosphate mining in Florida .....5 p. •86
—Practical use theoretical knowledge..2 p. 53
—Waste in phosphate-rock production.... 84
Loading machine (McCarthy-Moulton) 187
Locke, A. 266
Lode claims patenting 898
London Co., Col. 1072
London Engineers Club 63
London Gold Mines Co., Colo. 513, 713
Lone Pine—Submarine mine title..... 633
Lonely Reef, So. Africa 430, 510, 950
Long, J. I. 946
Long, S. G 466
Lord, P. L. 987
Lorenz, Cal. 749
Loring, W. J. 703
—Career (picture on cover) .....•617
Lorraine, M. J. 666
Los Cuates, Mex. 831
Los Tajos, Sin. 553
Lost Frenchman, Cal. 391
Loughlin, G. F., etc. Limestones and marls North Carolina .....†303
Louis d'Or Mng. Co., Ariz. 272
Louisiana—Salt mining (Wolf).....5 p. •6
—Sulphur (Wolf) .....3 p. •606
Louisiana & Colorado Mng. Co., Col...514, 1071
Louisiana Petrol & Coal Oil Co. 606
Lovell, F. M. .....•526
Low, A. H. Analysis methods 375, 660

Page

Lower costs the way out. Editorial 243
Luckenbach. Flotation discovery 56
Lucky Bill, N. M. 951
Lucky, M. C. 106
Lucky Five M. M. & R. Co.—vs. S. Lucas. 632
Lucky Jim, B. C. 352
Lucky Tiger-Combination Gold Mng. Co.—Dividends 39, 279, 439
—1920 report 119
Lucky Twenty Mng. Co., Colo.....673, 952
Ludlum, A. C. Drilling results and dredging returns comment 845
Lukens-Hazel, Mont. 154
Lunch buckets .....•102
Lutes, J. S. 383
Lyon, D. A. 148, 866
Lyon, F. 426

M

McAllister, B. C. 430
McAlpine, J. W. Copper and Copper Products 884
McCarthy, D. F. Old Tyopa 816
McCarthy—Moulton Loading Machine.... 187
McCracken, Ariz. 995
McDougall, A. vs. Oliver Iron Mng. Co. 347
McEnaney Gold Mines, Ltd., Ont. 512
McFadden, C. K. 466
McFadden Bill 1031
—Action Sought 550
—Editorial 801
—Mellon on 629, 669
—Oddie to Mellon 709
McGee Bros. N. M. 272
McGrath, T. O. Mine Accounting and Cost Principles .....†464
McGregor, A. G. 26
McIntyre, Ont. 229, 352, 552, 590, 631, 991, 1032
McIntyre-Porcupine, Ont.—Annual Report 1920-21 756
—Dividends 639
McIntyre, W. P. Depths of Molybdenum Ores 125
McIvor, Ont. 229
McKean, R. H. Death 1027
McKenzie, P. A. 26
McKinley, Ont. 747
McKinney, R. T. 266
McKinney Steel Co., Minn. 674
McLaughlin, R. P.—Oil Land Development and Valuation .....†422
McLean, J. H. 787
McLeod, B. H. Acid and Slimes in Flotation 213
McNair, J. 383
McQuatters, A. J. 946
Mabel, Nev. 1073
MacAllister Mng. Co., B. C. 30
MacBoyle, E. 64, 787
MacDonald, B. 626
MacDonald, H. J. C.—Standard Mine Cost Statement .....5p. •126
MacGregor, D. Neighborly Chats with Foreman 861, 899, 937, 1021, 1062
MacKenzie, G. C. 186
Mackenzie River—Petroleum ..62, †184, 263, 302
—Recording Office at Whitehorse 381
Mackenzie River Oil Co., B. C. 661
MacKillican, J. A. 826
MacLachlan, D. C. 383
MacNaughton, J. 145
Magadi Soda Co., Ltd 909
Magente, Cal. 911
Magistral, Jalisco 312
Magma Chief Copper Co., Ariz. 832
Magma Copper Co., Ariz. 748
Magnesite,—Austria—Exports 350
—Converting Dolomite into (Eyoub) 619
—Crops Damage Claimed 868
—Euboean Field (Boydell) .....5 p. 771
—Tariff 470
Magnesium—U. S.—Productions, Uses 460
Mahnomen, Minn. 355
Mahoning, Minn. 34, 232
Mahutska, Okla. 834
Maintaining Healthy Miners 923
Maki, Wash. 230
Maltby, C. S.—California Magnesite 885
—Mineral Tariff 404
—War Minerals Relief Claimant's Viewpoint 204
—War Problems in Minerals 965
Mammoth Copper Mng. Co. Maine 287
Mammoth, Utah 592
Management Engineering .....†184
Mandy Mng. Co.—Income Statement 1079
Manganese .....†143, †264, †464
—Brazil 48
—Chemical Ore 1020
—Russian Tonnage 869
—Tariff 471, 605
—Western States 656
Manganese Ore (Knickerbocker) .....•770
—U. S.—Production 1914-8 5
Manning, V. H. Oil controversy 383
Manuela y Anexas Mng. Co., Zac. 432
Many Industries in Mining. Editorial 201
Maple Leaf Asbestos Co., Ont. 112
Marble Bay, B. C. .....†985
Marble, R. N., Jr. 987
Marie Louise, New Cal. 69
Mariposa, Tex. 951
Marketing—See also names of minerals, etc.
Marketing—Editorials 721, 803
Market Report, weekly feature
Markets—Editorials 161, 561
Marquette Ore Co., Minn. 114, 355, 953
—Washing plant 554
Marriage, E. C. D. Determining Nickel Silverhorn ores 174
Marriott, H. F. 711
—Career .....•1060
Marsh Mines Consolidated, Idaho 153
—June, 1921, dividend 39
Marsh, Ont. 552

Page

Marshall, S. B. 145
Martin, A. H. *244
Martin, G. C. 106, 305, 383, 585
Mary Charlotte, Mich. 194, 274, 431
Mary, Nev. 714
Marysville Dredging Co. 91, 94
Mascot Copper Co., Ariz. 432, 1033
Mason, F. H. Coloring Gems by Radium .. 965
Mason & Barry 630
Masse, N. vs. Houghton County 715
Mather, S. L. 224
Mather, W. G. 1066
Mathewson, E. P. 350, 666
—European Conditions. Editorial 1
Matte Converting (Mazany) (Merriss) ... 206
Matterhorn M. & M. Co., Col. 432
Maxson, W. L. 305
May Consolidated Mine—Tailings Re-treatment 814
Mayflower, Mich. 593, 1070
Mayflower Old Colony, Mich. 674, 834
Maywood Chemical Co., S. D. 1072
Mazany, M. S. Converting High-Grade Matte 206
Mazapil, Mex. 712, 911
Mazata, Jalisco 311
Meacham, Minn. 154
Mechanical Loading Underground—Editorial 922
Medford M. & M. Assn., Wash. 230
Medina, C. Duz de 787
Meeting Business Half Way. Editorial 82
Meinzer, O. E. 185
Mellon, C. W. Gold situation 629, 669, 709
Melones Mng. Co., Cal. *725
Mendenhall, W. C. *64
Mendha, Nev. 513
Merits and Demerits of the Mining Law Bill. Editorial 641
Merriss, M. H. Converting High-Grade Matte 206
Mertie, J. B. Jr. 305
Mesabi Cliffs Iron Mng. Co., Minn. 593
Mesabi Iron Co., Minn. 708
Mesatas 1048
Metallurgy—Coarse Ore Transfer 1062
Metal statistics .....†104
Metal Statistics—monthly
Metallography—Steel (Kreuzpointner) 216
Metallurgical Progress, Shasta Co., Cal. (Young) 4p. *286
Metalurgica Mexicana Cia—Smelter Stock..*257
Metallurgy of Copper .....†825
Metallurgy of Zinc .....†464
Metallurgy on Rand .....†741
Metals—Prices, Monthly feature
—Scrap sale 870
Metals Competition. Editorial 1042
Metals Exploration Co., Colo. 673
Methane in Mines 25
Method of Determining Nickel in Silverhorn Ores (Marriage) 174
Metric Scale for Surveyors (Best) *101
Metric System Bill. Editorial 682
—Hearings 385, 588, 1031
—Introduced 190
Mexia, Tex.—Petroleum 1064
Mexican conditions. Editorial 641
Mexican Corporation 1074
Mexican Natural Resources Co., Chih. 150, 431
Mexican Silver Market 325
Mexico—Desert Ranges. Editorial 483
—Finance. Editorial 642
—French Interests 868
—Industrial Conditions 345
—Labor 385
—Mineral production, 1919, 20-21 ....265, 310
—Mining conditions 510
—Mining properties 1019
—Mining Titles (Meyers) 406, 685
—Petroleum
Mining Law 823
Prospective Production 82
—Recent Developments (Payne) ....3 p. *1045
—Silver 353, 511
Exports 696
Production, 1920-21 479
Taxation 384
—Taxes on Import and Export.....306, 382
—Transportation 311, 388
Mexico beginning to look attractive. Editorial 482
Mexico from without in (Pierce) 284
Mexico tax exemption. Editorial 562
Meyer, E. Jr. Career *897
Meyers, L. E. Co. 34
Meyers, P. W. Reclamation Mexican Mining Titles 406, 685
Meyers, W. A. 383
Miami Copper Co., Ariz. 70, 272, *794
—Dividends 439, 959
—Minerals Separation 146
Mica .....†865
—Queensland discovery 791
Michelson, A. 383
Michigan—Copper 474
—Copper industry early records (Keyes).. 776
—Industrial conditions 751, 955
—Tax rates 314, 628, 715
Michigan Land & Iron Co.—vs. R. S. Archibald 188
Michigan minerals (Mich. Biological Survey).†104
Michigan Smltg. Co., Mich. 673
Microscopic mineral determination ..†143, 903
Middle Mines, Nev. 592
Middlemiss, B. A. 426, 827
Midnight, N. M. 874
Midvale, Utah 33, 152, 273, 390
Midwest Dev. Co., Utah 749
Midwest Refining Co., Mont. 661
Milan Placer Co., Col. 514
Mile Eighty-six, Alaska 192
Miles, J. H. Death 145
Mill Bin Timbers Protection *180
Mill Canyon, Nev. 32
Millard, B. F. 383

Page

Miller, B. L. Graphite industry U. S. & Canada .....6 p. *207
Miller, D. L. 987
Miller Independence, Ont. 150, 386
Miller, R. B. 114
Milling—Determining Magnetic Iron Concentrate 919
—Rand Tailings Re-treatment 818
—Spillage and Dust Losses 938
—Thawing Device, Hart Jigs (Kemp).... 900
Mills, Grinding .....3 p. *969
Mills, H. 305
Minas Nuevas 271
Mine Accounting. Editorial 122
—Standard Mine Cost Statement.....5 p. 126
Mine Accounting and Cost Principles (McGrath) .....†464
Mine Blacksmith Shops (Day) .....5 p. *609
Mine Gases .....†662
Mine Hygiene in Australia. Editorial 602
Mine Sampling Methods at Tyrone, M. M. (Anderson) .....4 p. *531
Mine-Shaft Telescope. Editorial 482
Mine Ventilation .....†545, †662
Miner Men (Heimbach) 377
Mineral Concessions in India .....†264
Mineral Deposits and Vegetation (Harper).. *693
Mineral Industry During 1920 (Roush) ..†903
Mineral Policy Platform for World. Editorial 1
Mineral Resources. †104, †264, †344, †464, †545, †662, †741, †865, †903, †1025
Mineral Resources of Durango (Terrones & Rangel) .....6 p. *168
Mineral Resources of New York.....†422
Mineral Resources of Syria (Toll) ....5 p. *846
Mineral Resources of U. S. .....†422
Mineral Statistics .....†545
Mineral Tariffs .....†662
Minerals in Ore Pulp. Editorial 283
Minerals Separation vs. Butte & Superior.. 33, 66, 349, 548, 875, 907
Minerals Separation vs. Miami Copper Co.. 146
Mines Inspection Act 27
Mines Inspection Act in Illinois. Editorial. 2
Mines Service Corp., Ont. 230
Mine Superintendents Meetings in California. Editorial 242
Mining—Future. Editorial 922
—Mechanical Developments (Bain)..... 268
—Removing Shaft Pillar 937
Mining & Metallurgical Society 1026
—Domestic & Foreign Mng. Policy 904
—Engineering Education 742
—Engineers Licensing 382
—Vocational Training 584, 602
Mining and Metallurgy..... 85
Editorial 82
Criticism 401
Mining and Smelting Situation in Colorado (Walter) 125
Mining as seen by Herodotus (Ball) 614
—Comment (Georgiades) *1044
Mining Association of Eastern British Columbia 950
Mining Association of British Columbia... 1070
Mining Catalog (Keystone Cons. Pub. Co.).†264
Mining Company in Japan (Ishikawa & Kitamura) .....2 p. 966
Mining Conditions 678
Mining Corporation of Canada, Ont....69, 747, 950
—Report 1920 72
Mining Engineer's Education (Commerciante) 125
Mining in Alaska .....†903
Mining in Argentina (Walker) 4p. *291
Mining in Chile .....†1025
Mining in Colorado .....†545
Mining in Mexico (Cleland) .....†184
Mining in Quebec .....†464
Mining in South Australia .....†985
Mining in Tasmania .....†903
Mining Industry—Revival of. Editorial..1041
Mining Industries in Washington. Editorial. 881
Mining Institute of Scotland—Meeting.... 665
Mining Law Revision.....110, 148, 308, 641, 708, 788, 795, 947, 1004, 1005, 1031
—Bain on 746
—Editorials 641, 801, 841, 842
—Montana Mining Association 989
—Moulton on 804
—Northwest Mining Association 964
—Roos on 166
—Wallace, Idaho Board of Trade on 1073
Mining Laws (Wilson) .....†702
Mining Methods .....†1025
Mining Odyssey, (Holden) *176
Mining Petroleum in Kentucky 505
Mining Stocks. See Weekly Occupations.
Minnesota—Engineers Registration 308
—Industrial Conditions 751
—Iron 869
—Taxation 307
Minnesota Steel Co. 65
Mirasol, Chih. 778
Missabe Mountain, Minn. 34
Mission of the Business Press. Editorial..1003
Missouri—Bureau of Mines Survey Milling Problems 1065
Missouri (Joplin-Miami)—Industrial Conditions 751, 955
Missouri (Southeast) —Industrial Conditions 751
Missouri Iron & Steel Corp.—St. Louis Iron & Steel Co. consolidation 674
Mitchell, G. J.—Replacement Copper Deposits Warren District .....4 p. *246
Mitchelson, Sir A. 346
Mitter, C. A. 26, 946
Moctezuma Copper Co., Mex. 779, 951
Modderfontein, B. 588
Modderfontein, Rand 269
Modoc Cons. Mines Co., Colo. 112
Moffit, F. H. 106
Mogollon Mines, N. M. 713, 1033, 1072
Mohave Desert, Cal. .....†344

Page

Mohawk, Mich...194, 593, 715, 750, 792, 1035, 1070
Moisture—Blast Furnaces (Gillis) 250
Mollie Gold Mng. Co., Nev. 152
Molybdenum—Maine. Test 1057
—Ore Depths (McIntyre) 125
Molybdenum Steel (Haughom) 325
Monas Queen, Colo. 70
Monazite—Tariff. Editorial 202
—U. S. Consumption 698
Mond Nickel Co., Ont. 587, 591
Moneta, Ont. 112
Money. Editorial 642
Montana—Industrial Conditions 751, 955
Montana Development Co., Ariz. 672
Montana Mng. Association 989
Montana Morning, Mont. 390, 714
Montana-Silver Copper Co., Mont. 154
Monte Rico Mng. Co.—Fleming 874
Montreal, Mich. 34, 154
Moonlight Gold Mng. Co., Col.....1071
Moore, C. E. 987
Moore, P. N. War Minerals Relief Commission .....7 p. 730
Moore, R. B. 186, 305, 867
Moore, R. C. 585
Moose, B. C. 1070
Moran, R. B. Unjust Taxation California Oil Properties .....2 p. 342
More About those Copper and Brass Stores. Editorial 721
Morington, Cal. 673
Morley, W. S. 643
Morning, Idaho 433
Morning Star, Cal. 911
Morocco (Hutchins) .....3 p. 1006
Morris, H. C. 346, *426
Morrison, G. A. 826
Morro Velho, Brazil 49
Morse, H. A. 230
Morton Salt Co., La. *684
Mosburg, L. G. 224, 266, 585
Moss Mines, Ariz. 192
Mother Lode, B. C. 630
Mother Lode, Cal. 31, 402, 673
—Superintendents meetings. Editorial... 242
Motion Pictures. See "Moving Pictures"
Motors—Current Driven Water 537
—Santa Barbara 1050
Mougin, J. R. 426
Moulton, G. F. 585
Moulton, H. G. Mining Law Revision..... 804
Mount Boppy, Australia 830
Mount Cuthbert, Queensland 191
Mount Lincoln Cons. Co., Colo. 713, 1034
Mount Lyell, Tas. 191, 589
—Filtering Flotation Concentrates 217
—Report, 1920 958
Mount Morgan Gold Mng. Co., Ltd..29, 111, 191, 270, 308, 552, 589, 828, 909
—Annual report 1920-21 439
Mount Quamby, Queensland 191
Mount Reid-Rosebery, Tasmania 191
Mount Sullivan Mng. Co., Idaho..... 33
Mountain Copper Co., Cal. 194, 673 1073
Mountain Top Mg. Co., Colo. 389, 673
Moving Pictures—Bureau of Mines..190, 452, 931
—Drilling Operations 919
—Editorial 282
Moynahan, A. E. 145
Muir, D. D., Jr. 787, 1066
Mule Haulage in Metal Mines (Boericke).. 3 p. 853
Mulliken, H. S. 466
Multiplex, B. C. 871
Munger, C. H. 787
Munroe, H. S. 305
Murphy, A. 506
Murphy, J. G. Mining Law Revision 1004
Murphy, J. K. Death 666
Murphy, T. 230
Murray, M. D. 743
Murray, Utah 33, 152, 273
Muscle Shoals Nitrate Plant 146, 995, 1033
—Editorials 961
Mustang, Nev. 72
Mutual Divide Mng. Co., Nev. 473
Mutt & Jeff, Mo. 1035
Myers, W 547
Myles Salt Co., La. *9
Myrtle, Ore. 512
Mysore Gold Mng. Co.—Report, 1920.... 199

N

Nabob Cons. Mng. Co.—vs. J. W. Codd.... 153
Naica, Chih. 911
Nagel, F. J. 585, 867
Namaqualand, S. A. 1032
Naraguta Tin Mines, Nig. 747
Narukivo Mng. Co., Ltd. (Ishikawa & Kitamura) .....2 p. *966
Nason, F. L. Freedom of the Press 364
National Geographic Society. Editorial. 42, 681
—Comments 205, 295, 404, 484, 724
National Lead Co.—Cottrell Installation... *446
—Dividends 39, 639
National Safety Council—Annual Congress. 3 p. 581
National Silica Mng. Co., Miss. 194
National Tuberculosis Association. Editorial 923
National Vigilance Committee 945
Natomas Co., Cal. 112, 625, *688, 690, 691
Navajo Copper Co., Ariz. 1033
Navarit, Mex. — Recent Developments (Payne) .....3 p. 1045
Necessity of Taking Part. Editorial 401
Nechi Mines Ltd.—Report 1920 199
Negociacion Minera Jesus Maria, Coah ... 228
Neighborly Chats with Foreman..861, 899, 937, 1021, 1062
Neill, J. W —Obtaining Suction in Jigs 644
Neiman, E. F. 224
Nellie Gray N. M. 70
Nettie, L. B. C. 149

Page

Netzahualcoyotl, Chih. 353
Nevada—Dredge Construction at Dayton.. 6 p. *91
—Industrial Conditions 955
Nevada Consolidated, Nev.. 592, 833, 994, 1073
—Report Quarter June 1921 439
—Ruth Mine machine shop *254
Nevada Des Moines, Nev. 32
Nevada Rand Mines Co., Nev. 152
Nevada Silver Horn Mng. Co., Nev. 112
Nevada Silver Klondike, Nev. 112
Never Sweat, Mont. *390
New California, Nev. 633
New Callao Gold Mng. Co., Bolivar 910
New Consolidated Gold Fields 950
New Cornelia Copper Co., Ariz. 827, 948
—Copper market expansion 627, 748
New Dominion, Colo. 673
New Era Iron & Steel Corp., Wash. 273
New Harmony Mines, Nev. 633
New Hope Mng. Co., Wash. 392
New Idria, Cal. 1029
New Jersey Iron Ores ..... †865
New Jersey Zinc Co.—Dividends 439, 959
—Quarterly report 1921 279
New Mexican Tin ..... †903
New Mexico—Industrial Conditions 751
New Modderfontein, Rand 269, 670
—Annual meeting 1069
New Orleans Mng. & Milling Co. 8
New Price Levels in Chilean Nitrate (Irvin). 3 p. *136
New Quincy, Utah 673
New Uses for Copper ..... †662
New York & Honduras Rosario Mng. Co. 868, 907
—Editorial 241
—Report 1920 279
New York University—Petroleum lectures. 265
Newberry, A. W. 186, 305, 547
Newman, M. H. 186
Newport, Mich. 113
News Service—Eng. & Mng. Journal 483
Editorial 442
Newton, C. E. 305
Nicholls, L. 826
Nichols, E. F. 905
Nicholson Bill. See "Department of Mines"
Nicholson, S. D. 870
Nickel, Durango 172
—Low's Analysis Methods 375, 660
—Methods of Determining in Silverhorn (Marriage) 174
—Vancouver Island discovery 590
Nickel-Copper—Ontario 297
Nickel Plate B. C. 628
Nickel Refining ..... †422
Nieman, E. F. 787
Night Hawk Leasing Co., Ariz. 34
Ninghi Tin Co., Nig. 990
Nipissing, Ont. 150, 229, 511-12, 712, 831, 950, 991, 1032
—Dividends 279, 756
Nitrate—Chile *378, 1005
Exports 1917-21 136
New Price Levels (Irvin) .....3 p. *136
Production 1917-21 136
—Muscle Shoals, Plant.....146, 961, 1035
—Sales 949
Nitrates at Muscle Shoals, Editorial 961
Nitrates—Tacna-Arica, Editorial 481
Nitrogen Gas—Determination 891
Nitrogen Gas in Metal Mines, Editorial.. 683
Noble Five, B. C. 387
Nodulizing Improvement Chrome (Colbert). 2 p. *255
Non-metallic Minerals—Production Stimulation 309
—Research, Editorial 483
Non-Metallics and Enameled Ware 936
Norambagua Mines, Cal. 873
Norcross, F. S. Jr. 346, 707
Norling, Wash. 230
Norman King, Ariz. 272
Norris, R. V. *423
North America—Permian Revolution (Finlay) 1058
North Battleford Oil & Gas Co., Man. 740
North Broken Hill, Ltd. 628, 947
North Bunker Hill Mng. Co., Wash. 392
North Butte Mng. Co., Mont. 113, 633, 672, 714, 750, 833
—Report 1920 159
—Timber Protection (Harrington) ....4 p. *565
North Divide Extension, Nev. 391
North London Colo. 713
North Side, Idaho 433
North Standard, Utah 911
North Star, B. C. 270, 511, 871
North Star Cal. . 226, 232, 402, 591, 749, 1073
—Shaft Surveying *419
North, W. H. 466
Northern Nigeria Trust 990
Northern Ontario Gold ..... †184
Northport S. & R. Co., Wash. 71
Northrop, J. D. 224
Northwest Magnesite Co., Wash. 71, 868
Northwest Mining Association 867, 964
Norway—Zinc Situation 236
Notman, A. 383
Nova Scotia Mines ..... †24
Noyes W. S. 64
Nugget, B. C 628, 630
Nyberg, H. E. 426

O

Oakes, H. 229
Oatman Ariz.—Fire 27, 70
Oberg, A. C. 346
Obbmassi Mines 950
O'Brien, Colo. 673
O'Brien, T. H 867
Octo Mg. Co., N. M. 389, 1033
—vs. Anita Mng. Co. 272
Oddie, T. L. On gold situation 709
Odell, W. W. 145
Offending Latin Americans, Editorial.... 361

Page

Officer, H. G. 64, 145
Ogden, Col. 354
Ogle, A. J. 185
O'Harra, B. M. Smelting zinc ores 605
Oh, Those Germans. Editorial.....1042
Ohio & Colorado Smelting Co. 989
Ohio Oil Co., Mont. 661
Oil, see "Petroleum."
Oil-field practice (D. Hager) .....†741
Oil in Montana .....†662
Oil land development and valuation (McLaughlin) .....†422
Oil-shale .....†143, †741, †985
—Assay chart *621
—Brazil 47
—Discovery in Tarapaca, Chile 580
—Distillation .....†702
—Esthonian industry 544
—U. S. status of industry 183
Oil shale (Gevin, Hill & Peredew) .....†184
Oklahoma (Joplin-Miami district)—Industrial conditions 751, 955
Oklahoma (Bureau of Mines Survey of Milling Problems) 1065
Oklahoma Oil .....†464
Old Channel Placer Mng. Co., Mont..... 672
Old Dominion, Ariz. 70, 794, 873
Old Dominion, Wash. 512, 555, 633, 833
Old Eureka, Cal.—Boom derrick *462
Old Guard, Ariz. *347-8
Old Hematite, Austria 385
Old Rawhide, Cal. 31
Oliver Iron Mng. Co. 27, 226, 274
—Wage scale 634
—McDougall 347
Oliver Iron Mng. Co., Mich.....194, 554, 792, 872, 906
Oliver Iron Mng. Co., Minn.....34, 232, 314, 514, 793, 953
Ologau, Wales 948
Olvidada, Dgo. 563
Omnipotent Ford. Editorial 323
O'Neill, J. J. 64
Ontario—Gold production 135, 479
—Industrial conditions 955
—Metal Production, 1921.....1078
—Mine taxation 285
—Mineral production 1921 .....290, 430
—Nickel-copper industry 297
—Silver output 338
—Transportation 30
Ontario Kirkland, Ont. 388, 69, 229, 352, 552, 991, 1032
Ontario Mining Association—Annual meeting 28
Ophir District, Utah .....†985
Ophir, Nev. 151
Ophir Hills, Utah 313
Ophir Silver Mines, Utah..... 875
Opp, Oro. 392, 512
Opportunity for copper producers still open. Editorial 601
—Comment 884
Optimism and Foreign Trade. Editorial.... 123
Ore-chute device *660
Ore-dressing 223, 938
—Examining minerals (Fry) 1022, 1063
Ore dressing (Young) *982
Oregon—Industrial conditions.....828, 955
—Platinum Discovery 354
Oregon Oil and Gas .....†545
Oregon-Pittsburgh Mng. Co., Ore. ....2 p. 548
Oriental Consolidated Mng. Co., Koreo... 69, 150, 630, 951, 991
Origin of Apex litigation. Editorial 841
Original Klondyke, Nev. 152, 391
Orleans Hornsilver, Nev. 391, 749, 833
Orleans, Nev. 513
Ormond, N. C. 114
Oro, Cal. 911
Oro Plata Cons., N. M. 151
Orogrande M. M. Co., Idaho 313
Oroville Dredging Co.—Report 1920..... 159
Orr, Ont. 631, 951
Osaka, copper production 228
Osborn, W. X. 547
Osmiridium—Australia 55, 510
Osmium 981
Otavi Mines & Ry. Co. 471
Ottawa, B. C. 228, 552, 871
Ouray Leasing Co., Colo. 952
Ouray Union M. & M. Co., Colo.....389, 952
Ouro Preto Co. 50
Outlook for our mineral industries. Editorial 561
Overseas Exploration Syndicate, Australia. 472
Oxford-Cobalt, Ont 388, 431, 512

P

Pabst, Mich. 34, 1071
Pacific Gold M. & M. Co., Utah..... 749
Packard, G. A.—Brazil as mining country.. 8 p. *45
Packard, N.—Death 186
Padison, L. 743
Paige, S. 106, 224
Paine, F. W.—Michigan Copper Industry.. 884
Palatine Mng. & Dev. Co., Ala....34, 314, 628, 1035
Palatine Mng. & Dev. Co., Ont.....34, 314
Palladium 981
Palmarito, Sin. 553, 831
Palmer, C. H., Jr. 145
Palmer, E. 150
Palmer, L. A.—Federal Universities suggested 85
Palmquist, O. M. 383
Paragon Cons. Mng. Co., Ida. 875
Paré-Thébierge Syndicate, Ont. 112
Parish, H. L. 112
Park City King, Utah 231
Park Tunnel Transport Co., Col. 514
Park-Utah, Utah 433, 994
Parks, H. M.—Boswell Mine ....2 p. *107
Parroci, T. A.—Death 224
Parsons, A. B.—Apex procedure 163
—Personalities & motives 324
Parsons, A. L. 346

Page

Parsons, F. W. 707
Partridge, A. R. 1061
Passagem, Brazil 50
Passing of Bolshevism in Mexico. Editorial 641
Passing of the Burro 843
Patenting lode claims 898
Patents—Carson infringement suit..... 314
Patricia Syndicate, Ont. 431
Patty, E. N. 547
Pauling, H. Editorial 83
Paulson, Minn. 34
Payne, H. M. Recent Developments in Jalisco and Nayarit, Mex. .....3 p. 1045
Pawl, M. Graphite and tariff on minerals. 204
Paymaster, Colo. 952
Peace River, Alta. 149
Pearce, Ariz. 432
Peat—as fuel, Michigan 674
Pee Dee, N. C. 952
Peerless, B. C. 630
Peninsula Power Co., Mich. 750
Penn Iron Mng. Co., Mich. 750
Pennie, J. C. 1066
Pennington, Minn. 114
Penningtons Asbestos Co., Ont. 112
Peñoles Mines Co., Chih. 388
Peñoles, Coah. 472, 630, 748
Peñoles, Dgo. 69, 712
Penzer, N. M.—Tin resources of British Empire ..... †24
Peregrina M. & M. Co., Gto 31, 388
Perini, Cal. 391
Permian Revolution in North America (Finlay) .....2 p. 1058
Perrott, G. st. J. 426
Peru .....†545
Peterson Lake, Ont. 229, 789
Petroleum .....†702
—Argentina 984
—Arizona strike 103
—Australia 624, 862, 902
—Bureau of Mines 665
—California Production 1064
—Inorganic origin (Hixon) 622
—Measuring depth of well with transit (Wolf) 739
—Mexico—Mining law 823
—Moving pictures 931
—Oil-Well Machinery Exports 1064
—Price increase 624, 864
—Red River Boundary Settled 1064
—So. Africa 790
—Spokane Fraud 1064
—Sumatra .....5 p. 942
—Tariff 142
—U. S.—Market situation 463
Production 1920-1921 ....623, 740, 902
—Venezuela—Industry 1920 (Redfield).. 4 p. *780
—Venezuelan Guiana 911
—Wildcats, Editorials 403, 1003
Petroleum engineering .....†825
Petroleum in Alaska .....†24
Petroleum Investigations — Bureau of Mines 901
Petroleum Land Leasing Act 385
Petroleum Laws .....†545
Petroleum Possibilities of Guatemala (Redfield) .....4 p. 540
Petroleum Register (Oil Trade Journal).. 264
Petroleum specifications—Standardization Committee 142
Petroleum Summary report 1920 Ottawa..†184
Petroleum Supply (Smith) 165
Phelps Dodge Corp. 192, 756, 1033
—Arizona Copper Co.....349, 586, 913, 951, 988, 995
—Dividends 279
—Employee representation.....65, 306
Editorial 81
—Sampling at Tyrone .....4 p. 531
Editorial 522
Phelps, H. D. 305, 987
Philippine Field Work (Burchard)..4 p. *334
Philippine silver deposits 18
Philipsburg Mng. Co., Mont. 953
Phosphate—Algeria 290
—Arkansas 188
Phosphate Mining in Florida (Lloyd)..5 p. *86
Phosphate-rock—Production waste (Lloyd) 84
Phosphates .....†903
Phosphoric acid recovery—Cottrell process (Landolt) 167
Pickands-Mather Co. 34, 872, 948
—Balkan and Verona mines 1071
—M. A. Hanna vs. Wakefield 34
Pickard, B. O. 323
Piedra Bola, Jalisco 312
Pierce, C. A. Mexico from without in.... 284
Pierce-Hardin & Co., Tex. 1003
Pierce Junction—Petroleum 421
Pilger, T. 305
Pilgrim's Rest 991
Pilot, Minn. 34
Pinguico Mines Co., Gto 31, 388
Pinos Altos, Chih. 271
Pioche Metals Mng. Co., Nev. 513
Pioneer, Minn. 314
Piper, A. M. 185
Pitch—Colloidal, flotation reagent..... 56
Pitt Iron Mng. Co., Minn. 953
Pittman Act.—Effect on silver exports 278
—Silver purchases 990
Pittsburgh Comstock, Nev. 911
Pittsburgh plus case 1030
Pittsburgh, Utah 633, 875
Pittsmont, Mont. 390
Place of jigs in roughing concentration. Editorial 322
Placer mining—British Columbia 629
Placers de Oro de Bacubirito 112
Placers of Johnnie District, Nev. (Labbe) .*895
Planches de Plata 432, 1074
Platinum .....†344
—California 592
—Oregon Discovery 354
—South Africa (Weston) 815
—Testing in ores 259

Page

Platinum—continued
—U. S. Market 1900-1921 ... 478
Production 1920 ... 98
Platt, J. M. ... 266
Platte River Dg. Co., Colo. ... 1034
Plumas Eureka, Annex, Cal. ... 473
Plymouth Cons. Gold Mines, Cal. ... *102, 226, 873
—Shaft sinking ... *181
Poderosa Mng. Co.—Dividend ... 279
—Report 1920 ... 279
Poland—Silesian minerals distribution ... 989
Politics and mines in Asiatic Turkey. Editorial ... 761
Polkinghorne, W. C. ... 626
Pope, F. ... 266
Porcupine Crown Mines, Ont. ... 748
Porcupine Davidson Gold Mines ... 387
Porcupine V. N. T., Ont. ... 387
Port Pirie ... 429, 589
Porteus, J. P. ... 106, 1066
Portland Gold Mng. Co., Colo. ... 713, 952
Poston, R. H.—Drafting room weights ... 739
—Draining water from conveyor belts ... 822
—Safety Device for Station Gate ... 1063
—Tagging diamond-drill holes ... *659
—Transit tripod leg clamp ... 739
Potash ... †903
—Alsace-Lorraine—Production ... 215
—Brazil ... 47
—German Syndicate contract ... 670
—Southwest discovery ... 789
—Utah ... 433
Potash tariff. Editorial ... 202
Potero Mn. Co., Sin. ... 553, 831
Potosi-Caribou, Col. ... 514
Potts, C. W. Tariff on minerals ... 4
Powdered coal ... †985, †1025
Powell, H. ... 111
Power—Arkansas ... 469
—Colorado River ... 708
—Porcupine, Ont.—Control ... 712, 792
Power, H. W. Welfare work in Coeur d'Alenes ... 2 p. *295
Power plants—Chihuahua ... 270
Power rates—Utah ... 225, 273
Power supply Witwatersrand (Edward) ... 667
Practical use of theoretical knowledge (Lloyd) ... 53
Pratt, J. H. ... 145
Precious stones ... †741
Precipitating copper ... †702
Precipitation—Cottrell process phosphoric-acid ... 167
Precipitation—United Verde ... 621
Preliminary roughing concentration by sorting, jigging and tabling (Wiard) ... 326, *369, *411
—Comment (Neill) ... *644
Premier, B. C. ... 68, 229, 511, 628, 831, 910
—Patrick Daly ... 744
Presler, M. S. Cheap and efficient rod mill lining ... *301
Prestea Block A, W. A. ... 1031
Price, J. M. ... 305
Prince Consolidated, Nev. ... 112, 194, 473
Princeton, Mich. ... 434
Princeton Mining School ... 144
Problem of the Publication Society. Editorial ... 681
Production of coal. Editorial ... 481
Profit sharing (Cook) ... 325
Profit sharing in mining (Kellogg) ... 124
—Criticism (Crocker) ... 443
Progess of rock-drill bits. Editorial ... 801
Promontorio, Dgo. ... 712
Properties of slate ... †903
Proposed Mining Law. Editorial ... 801
Proposed Monazite Tariff. Editorial ... 202
Prospecting—Drilling and dredging (Gardner) ... *646, *688
—Electrical (Kelly) ... 1004
—Washington ... 499
Providence, B. C. ... 111
Providencia, Gto. ... 31
Providencia, Sin. ... 558, 831
Prowell, W. J. ... 64
Psyche, Ore. ... 313
Pueblo Leasing Co., Ariz. ... 672
Pulaski Inv. M. & P. Co., Col. ... 514, 1071
Pump, sinking—Substitute ... *660
Purington, C. W. ... 426, 707
—Career ... 737
Pyrite in South Carolina ... †741
Pyrites—Czecho-Slovakia ... 550
—Spain exports ... 1028
Pyrometry ... †24

Q

Quantitative microscopic determination of minerals in ore pulp. Editorial ... 283
Quartz—Uses ... 100
Quayle, W. T. ... 547
Queen, Col. ... 389, 1071
Queen Creek Copper Co., Ariz. ... 1033
Queen & Seal, Wash. ... 313
Queensland—Sapphire marketing scheme ... 191, 910
—State mining enterprises ... 910
Queensland geology ... †24
Queensland mining ... †786
Quenelda Graphite Corp. ... *207, 211
Quicksilver—Durango ... 170
Quigley, W. J. ... 666
Quincy, Mich. ... 72, 113, 154, 274, 593, 834, 1070
Quinn, C. K. & Co., Minn. ... 593, 952

R

Radioscope Laboratories Co. ... 963
Radium ... †545
—Belgian Congo ... 428, 1010
—Cornish mine ... 1028
—Czecho-Slovakia ... 350, 427
Radium Act—Canada ... 68
Radium Co., Colo. ... 33, 432, 592
Radium Luminous Materials Corp., Col. ... 592
Radium supply (Staver) ... 405
Ragsdale, W. ... 33
Raible, C. M. ... 232
Raick, J. ... 787
Rail linings for ball mills (Hardinge)—Comment ... 1005
Railroads and trucks. Editorial ... 722
Ralston, J. C. ... 666
Ralston, O. C. ... 466
Rambler-Cariboo, B. C. ... 30, 352, 430, 831
Rambler, Wyo. ... 473
Ramlow, W. C. ... 547
Rampolla, B. C. ... 229, 871
Rand—Costs ... 386
—Far East conditions ... 790
—Labor situation ... 309, 510, 788, 868
—Mining practice ... 1008, 1012, 1019
Rand, C. F. ... 26
Rand Mines—Central ... 193
Rand Refinery, Ltd. ... 747
Randall, H. B. S.—Death ... 145
Randfontein ... 868
Randfontein Central ... 149, 269
Randfontein Estates ... 149
Randolph Gold M. & M. Co., Colo. ... 151
Randsburg Silver Mng. Co., Calif. ... 32, 391, 513
Rangel, M.—Durango mineral resources ... 6 p. *168
Ransome, F. L. Career ... *99
Rare and precious metals station Bureau of Mines (Young) ... *214
Rawley, Colo. ... 307
Ray Consolidated Copper Co.—First quarterly report ... 76
—Report second half 1921 ... 397
Ray-Hercules, Ariz. ... 988
Raymond, R. M. ... 106
Reavis, H. S. ... 106
Recent advance in design of gold-dredge bucket lips (Young) ... 932
Recent applications of Cottrell processes (Hesson, Landolt & Heimrod) ... 4 p. *446
Recent Developments in Mining in Jalisco and Nayarit, Mexico (Payne) ... 3 p. *1045
Reception of the mine law revision. Editorial ... 841
Rechtersveld ... 991
Reclaiming silver tailing at Coniagas (Cawley) ... *890
Reclamation of Mexican mining titles (Meyers) ... 406, 685
Reconstruction, Editorial ... 82
Red Oak, Ore. ... 993
Red Ribbon, Ore. ... 392
Redfield, A. H. Djambi oil field of Sumatra ... 939
—Petroleum in Mendoza-Neuquen District, Argentina ... 23
—Petroleum possibilities of Guatemala ... 4 p. 540
—Venezuelan petroleum industry 1920 ... 4 p. 780
Rees, C. ... 905
Reeve, F. C. Elementary qualitative analysis of metals and acid radicals ... †184
Refining lead-bullion (Griswold) ... 978
Refinite Co., S. D. ... 1072
Reid, J. T. ... 346
Reid, W. L. ... 26
Reigart, J. R. ... 743
Reinhardt, A. P. ... 33
Reorganized Belcher Divide, Nev. ... 72
Replacement copper deposits in Warren District (Mitchell) ... 4 p. *246
Replogle, J. L. Hapsburg Estate Interests ... 469
Republic Iron & Steel Corp., Ala. ... 628, 793, 954, 995, 1035
Republic M. & M. Co., Ala. ... 995
Republic of Canada. Editorial ... 43
—Hannay's comment ... 605
—Reply (Leo) ... 325
Requa, M. L. ... 26
Research—Bureau of Mines Co-operation ... 550
—Latin American ... 707, 722
—Utah School of Mines ... 424
Reservation, N. M. ... 70
Revenue Mines, Ariz. ... 794
Reverberatory furnaces ... 856
Reverberatory furnaces (Thum) ... 924
Reynders, J. V. W. ... 826
Rhodes, M. E. ... 227, 309, 509, 465
Rhodesia Broken Hill Dev. Co. ... 228
Rice, E. R. ... 426
—Churn Drilling Disseminated Copper Deposits—II ... 8 p. *11
Rice, G. G. ... 27, 151, 153, 187, 313, 468, 935
Editorials ... 43, 162
Rice, G. S. ... 148, 346
—Alaska mining ... 588
—Mine ventilation ... 1021
Richards, A. E. ... 626
Richards, J. V. ... 905
Richards, J. W.—Death ... *666
Richards, W. J.—Death ... 26
Richards Jig ... 329
Richardson, A. ... 145, 346, 383
Richardson, C. A. ... 64, 224
Richardson, D. A. ... 707
Rickard, T. A. Concentration by flotation. †184
Ricketts, L. D. ... 1029
Ridge Valley, Utah ... 1073
Riffle—Kirtley (Canton) ... *180
Rigby, Ariz. ... 272
Right and wrong of churn drilling. Editorial ... 3
Right-of-Way, Ont. ... 591
Rigney, P. S. ... 351
Rill stoping ... †344
Rimu Gold Dredging Co. ... 831
Rinehart, W. ... 194
Rio Plata, Chih. ... 431
Rio Tinto, Spain ... 349, 628, 711
Riotous taxation. Editorial ... 683
Rising Star Mine, Cal. ... *288
Ritter, E. A. ... 987
Riverside, B. C. ... 387
Roasting.—Nine-Hearth Furnace ... 491
Roberts, M. ... 346
Robinson & Sands, Ariz. ... 995
Roby, L. ... 905
Rochester combined ... 948
Rochester Silver Corp., Nev. ... 32, 833, 948, 1073
—Dividends ... 39, 639
Rock drill, see "Drilling."
Rock temperatures—East Tinctic District 852
Rod mill lining (Presler) ... 301
Rod Mills—Design of Liner and Application ... 1056
Rogers, A. F. Introduction to study of minerals and rocks ... †702
Rogers-Brown Ore Co., Minn. ... 114, 474, 948, 952
Rogers, R. P. ... 64
Rogers, T. S. ... 506
Role of acid and slimes in flotation (McLeod) ... 213
Role of criticism. Editorial ... 401
Role of sampling in mine operation. Editorial ... 522
Roll, G. ... 305
Roodepoort plan. Editorial ... 603
Roodepoort United, Rand ... 551, 747, 909
Roos, A. T. Revision of mining laws ... 166
Roosevelt deep drainage, Colo. ... 874
Rope drive ... †702
Rope strength ... 891
Ropes, L. S. ... 266
—Education of mining engineer ... 844
—Foreign vs. domestic business ... 167
Ropp Tin, Ltd., Nigeria ... 471
Rosario, Guanajuato ... 31
Rosario, Honduras—shutdown ... 146
Roscoe Conklin, Colo. ... 952
Rosebery-Surprise, B. C. ... 831, 959
Rosedale, N. M. ... 34
Rosendenia, Mex. ... 831
Roses Gulch Placer Gold, Ltd., B. C. ... 629
Ross, C. P. ... 106
Ross, F. A. ... 826
Ross, H. M. ... 273
Ross, J. G. ... 266
Rossland, B. C. ... 270, 628
—Production ... 30
—Transportation ... 30
Round Mountain Mng. Co., Nev. ... 72, †903
—Report 1920 ... 319
Roush, G. A. Mineral industry during 1920 ... †903
Rowley Copper Mines, Ariz. ... 748
Rowntree, B. S. ... 921
Roy, R. O Co., La. ... 984
Royal Dev. Co., Wash. ... 512
Royce, W. ... 1014
—Scraping and loading in mines ... 925, 973
Royer, F. W. ... 666
Royston, Nev. ... 795, 833, 869
Rubidge, F. T. ... 106
Ruby, Wash. ... 230
Rumania Petroleum — Production May-June 1921 ... 421
Rumanian Association of Mining Engineers first meeting ... 144
Russia—Great Communistic Experiment. Editorial ... 321
—Metallurgical Industries ... 696
—Petroleum—Production ... 463
Russia Consolidation Mng. Co., Col. ... 514
Russo-Asiatic Consolidated, Ltd. ... 111, 588, 711, 744
—Report, 1920 ... 199
Ruth, Nev. ... 152, 254
Ruth, N. M. ... 33, 272
Rutherford, F. ... 224
Ryan, J. D. ... 186
Rypinski, J. E.—Seven year mining course. 245

S

Sabanagrande, Honduras ... 146
Saben, W. M. ... 987
Safety, Editorial ... 883
Safety—Carbide with explosives ... 972
—Gas Masks Bureau Test ... 613
—Guarding chute lips of shaft pockets ... *659
—Hoist engineer. Editorial ... 243
—Hoist signaling in metal mines ... 665
—Hoisting device ... 938
—Mines Inspection Act ... 2, 27
—Old workings dangerous ... 924
—Regulations on use of telephone ... 185
—Station Gate Device ... 1063
Safety Device for Station Gate (Poston) ... 1063
Sagamore, Minn. ... 114, 355
Sagebrush silver producer (Carpenter) ... 4 p. *132
St. Anthony, Ont. ... 748
St. Clair, M. M. Desert prospector ... 139
St. John del Rey Mng. Co. ... 49
—Dividend ... 279
—Report 1920-21 ... 159
St. Joseph Lead Co., Idaho ... 1074
St. Joseph Lead Co., Mo. ... 954
—Dividends ... 639
St. Louis Iron & Steel Co.—Missouri Iron & Steel Corp. Consolidation ... 674
Salduro Chemical Co. ... 107
Salida Smelter, Col. ... 307
Salmo, B. C. ... 111
Salt and gypsum deposits of So. Australia (Jack) ... †143
Salt Creek Field, Wyo.—Petroleum ... 62
Salt in Nova Scotia ... †24
Salt mining in Louisiana (Wolf) ... 5 p. *6
Salvator, B. C. ... 1070
Sampling in mine operation. Editorial ... 522
Sampling methods—Tyrone, N. M. (Anderson) ... 4 p. *531
San Diego, Chih. ... 271
San Francisco Mines ... 870
San Joaquin Valley—labor 381, 580, 661, 701
San Jose de Gracia, Sinaloa ... 553
San Juan, Chih. ... 431

Page

San Juan de Mata, Dgo 553
San Luis Gonzaga, Sin. 553, 831
San Luis Mng. Co., Dgo. 69
San Manuel y Anexas, Zacatecas 150
San Martin, Chih. 431
San Patricio, Chih. 271
San Pedro Analco, Jalisco 312
San Rafael Mng. Co., Dgo. 69
San Sebastian Mines 146
Sanders, L. 266, 466
Sanderson, Ont. 1032
Sanger, Nev. 749
Sangre de Cristo, Colo. 874
Sanitation — Purifying water supplies (Lanza) 55
—Ragtown communities 608
Santa Barbara 500-Ton Mill for Concentrating Lead Carbonate Ores (Heidelberg). 7 p. *1050
Santa Cruz Mine, Dgo. 69, *171
Santa Elena, Chih. 271
Santa Eulalia, Chih. 431, 631
Santa Gertrudis—Report 1920 76
Santa Rosa, Chih. 353
Sapphire field—Anakie 191, 910
Sapphires—Montana 390
Saunders, T. S. 106
Savage, J. A. Co., Minn. 114, 953, 1071
Sawyer, E. M. 506
Schaus, O. M. 305
Schlereth, C. Q. 506
Schlumberger, Prof. C. 106
Schmidt, F. L. 64
Schober, C. J. 64
Schumacher, Ont. 590
Schwerin, M. 626
Science, Journalism and Hypocrisy. Editorial 42
—Comments 404, 484
Scott, W. G. 743, 987
Scranton, Utah 152
Scrapers ..... 922, 925, 3 p. *969, 973, 1014
Editorial 922, 925
Scraping. Editorial 973
Scraping and loading in mines (Royce). 925, 973, 1014
Seaman, A. E. 626
Seeber, R. R. 326
Seelig, J. C. Rail lining for ball mills. 1005
Sells Mng. Co., Utah 231, 952
Seneca, Mich. 154, 314, 391, 715, 792, 872, 913, 1035, 1070
Sensitiveness of modern economic system. Editorial 401
Service information. Editorial 803
Setting Europe up in business again. Editorial 961
Settler Tap (Gillis) *300
Shackelford, W. B. 186
Shaft guides *539
Shaft lining ..... †464
Shaft pillar, Removal 937
Shaft rollers *102
Shaft sinking—Plymouth Mine *181
Shaft sinking record—Walter Fitch Jr., Co. 146, 188, 267, 306, *376, 587, 832
Shaft surveying—North Star Mine *419
Shaft-testing apparatus (Gradenwitz) *260
Shafts—Locking guides *504, *539
Shamva, So. Africa 110, 509
Shannon, Ala. 954
Shapes—Copper 738
Sharpe, A. J. M. 266
Sharpless, F. F. *26, 106, 186
—Career *418
Shasta Zinc & Copper Co., Cal. 194, 232, 267, *289, 749
Shattuck-Arizona Copper Co. 232
—Report quarterly 1921 319
Shaw, S. F. 1066
Sheldon, G. L. Getting tariff out of politics 84
—Inaccurate assay reports 331
Sheridan, N. S. 1027
Sherman, G. D. 867
Sherwin, J. W. 946
Shetlands Islands 385, 589, 790
Shiras, Minn. 154
Shirley & Edgar, Nev. 749
Sholes, W. R. 743
Shortridge, Senator—Dept. of Mines Bill. 28
Should the Institute increase? Editorial. 481
Showers Consolidated, Utah 832
Shyness of the Engineer. Editorial 922
Sicily—Sulphur (Wolf) 607
Sidney, Ida. 71
Siebenthal, T. 905
Siebert, F. J. 905
Signaling—Hoist, in metal mines 665
Silica Products Co. 194
Silla, Sonora 1074
Silver ..... †662
—British Columbia 629
—Durango 171
—Guanajuato, Mex. 30
—Market. Editorial 561
—Mexican market 325
—Mexico 353
Exports 511, 696
Production 1920-21 479
—Ontario output 338
—Pittman Act 278
—Prices 1921 ..... 559, 838, 1078
—Purchases 990
—Sagebrush producer (Carpenter). 4 p. *132
—U. S. 1920 959
—U. S. exports & imports 278
Silver Butte, Mont. 795
Silver Chief, Nev. 391
Silver Cliff, Ont. 1032
Silver Cup, B. C. 149
Silver deposits in Philippines 18
Silver Dike, Mont. 390
Silver Hills Co. of Nevada. 72, 714, 995, 1073
Silver Horde, B. C. 387, 630
Silver Islet, Ont. 270, 310

Page

Silver King, Ariz.—Sale 188
Silver King Coalition, Utah. 231, 433, 592, 714, 994
Silver King Consolidated, Utah. 153, 313, 833
Silver King Lead & Zinc Co., Ark. 555
Silver Klondike, Nev. 355
Silver-lead—Queensland 430
Silver Mines Co., Col. 354
Silver Monument, N. M. 873
Silver Queen, Ont. 310
Silver Queen, Wash. 833
Silver Reef, B. C. 149
Silver Rock Mng. Co., Mont. 154
Silver Standard, B. C. 1070
Silver Wave, Col. 1071
Silverado, B. C. 229, 511, 671
Silverhorn—Determining nickel (Marriage) 174
Silversmith Mines Ltd., B. C. 111, 310, 831
—Report 1920-21 159
Simon Silver-Lead Mines, Nev. 267, 391, 673, 907, 994, 1073
Simons, T. Air receiver calculations. 244
—Compressed air ..... †422
Sinaloa—Gold survey 192
Sintering ..... †786
Sintering improvements (Colbert). ..... 2 p. *255
Siskron, Ore. 392
Sister, Ida. 71
Skelton Zinc & Lead Co. 555, 715
Skip—Altering incline (Hunner) *579
—Alvarada type *20
Skip dumping irons *140
Slags—Zinc recovery from lead blast-furnace 338
Sleeper, J. F. 346, 426
Slessor, R. Smelting sulphur and arsenic in China *695
Sligo Furnace Co., Mo. 427
Sloan, W. 666
Sloss Sheffield Steel Iron Co., Ala. 628, 1035
Slosson, E. E. Creative chemistry. ..... †303
Slump in Humanitarian Market? Editorial. 442
Small profits and many sales. Editorial. 563
Smart, Thos. vs. Ariz.-Jerome Copper Co. 69
Smelter Smoke Litigation. See also under Lawsuits names of individual companies. 65, 354, 632, 789, 913, 1003
Smelter stack, wood (Lindau) *257
Smelting—Colorado 989
—Trust. Editorial 362
Smelting gold precipitates on Rand. 1019
Smelting rates—Trail, B. C. 587
Smelting sulphur and arsenic ores in China (Slessor) *695
Smith, G. O. 26, 383
—Concerning petroleum supply 165
—War problems in minerals 892
Smith, H. A.—vs. H. B. Hoyland. 832
Smith, P. I.—Tariff on minerals and courage 324
Smith, R. G.—Discrepancy between drilling graphite 204
Smith, R. G. Discrepancy between drilling and dredging results ..... 3 p. 812
Smith, F. M. 1066
Smith, S. 305
Smithsonian Institution 908
Smuggler-Union, Colo. 313
Smyth, H. L. 305
Snowden & Sweeney, Tex. 142
Soap Creek Oil Field ..... †985
Society of Chemical Industry — Montreal meeting 425
Socketing hoisting ropes with zinc (Ageton) ..... 2 p. *219
Soledad y Anexas, Dgo. 1033
Solstice, Ariz. 192, 312, *348
Some aspects of Revenue Act of 1921 (Haig) 1011
Some interesting relations between vegetation and mineral deposits (Harper) *693
Some unique Bolivian tungsten deposits (Hess) 60, *492
Sonora M. & M. Co., Idaho 33
Soot blowers on boiler *101
Sorting—Roughing concentration (Wiard). *326, 369, *411
Soto Mines Co., Dgo. 69, *172
Soupcoff, S. M. 987
South Africa—Diamonds 1920 131
—Gold dividends 68
—Gold premium 22
—Labor 350, 471
—Mineral production 1919-20 96
—Platinum (Weston) 815
South African Asbestos Mines, S. A. 747
South African coal ..... †464
South African Institute of Engineers. 552, 671
South African mining ..... †741
South America — Offending Latin Americans. Editorial 361
South Crofty Co. 149
South Dakota (Black Hills)—Industrial conditions 751, 955
—Memorial on gold discovery *273
So. Eureka, Calif.—Lubricating hoisting rope *140, 1073
South Fork, B. C. 111
South Hecla, Utah 231, 749, 952
South Terras, Cornwall 1028
South West Africa Co. 990
Southern Lead & Zinc Co., Kansas. 834
Southern Minnesota & Washington Mng. Co., Wash.—Submarine mine title. 633
Southern Pacific Co., Ariz. 69
Southwest Metals Co.—Consolidated Ariz. Smltg. Co. Purchase 669, 1067
Southwestern Miami Dev. Co., Ariz. 150
Spain—Chamber of Mines 669
—Import duties 225
—Mining Council 867
Spanish Belt Cons. Silver Mng. Co., Nev. 873
Spanish orebodies ..... †985
Spearhead Gold Mng. Co., Nev. 749
Specific objections . Editorial 841
Spencer, J. W. Death 666
Sphalerite Fluorspar Separation ..... †264

Page

Spence, H. C. E. 151
Spilsbury, P. G. 787, 826
Spoon, N. C. 434
Springs Mines — Change in metallurgical practice 630
Spurr, J. E. War Minerals Investigation, Bureau of Mines ..... 6 p. 651
Stabilization of Foreign Exchange. Editorial 761
Stand by the Federated American Engineering Societies. Editorial 1001
Standard Chemical Co., Col. 592
Standard mine cost statement (MacDonald) 5 p. 126
Standard Silver-Lead Mng. Co., B. C. 68, 633
Standardization Conference — American Mining Congress 703
Standardization of rock-drilling machines. Editorial 682
Star, Idaho 349, 507, 988
—Federal M. & S. Co. suit 869
—Hecla-Bunker Hill & Sullivan Suit. 628, 745, 789, 795, 906
Stargo, Ariz. 632
State and local mine taxation. Editorial 882
State of Maine, Ariz. 432, 672
Statistics—Commodities price curves 318
—Mining. Editorial 162
Staver, W. H. Radium supply 405
Steam shovels—Phosphate mining *86
Stearns, C. E. 346
Steel. See also "Drill Steel."
—Foreign manufacturers offering (Lawler) 324
—Metallography (Kreuzpointner) 216
Steel & Tube Co. of America. 872
Steele, H. 466
Steese, R. C. 383
Steiny, H. J. Mud-laden fluid under high pressures into porous formations *182
Stemwinder, B. C. 430
Stene Cons. Copper Co., Ariz. 1033
Stevens, F. G. 266, 547
Stevens, N. M. 272, 432
Stewart, J. A. 383
Stewart Mng. Co. 153
Stewart, N. L. Soot blowers on waste-heat boiler *101
Stewart, R. H. 826
Still, J. B. 64
Stillman, C. O. 743
Stoddard, C. Tungsten tariff 445
Stone, R. W. 1027
Stoping 1009
—Record claimed in South Africa 830
Stoping bar (Labbe) 822
Stoughton, B. 346
Strache, W Future of small-scale mining & smelting in Chile ..... 2 p. 97
Straits settlements—Tin 453
Stranahan, D M. Determining dip of vein at depth *261
Street, G. B. Tacna-Arica problem 604
Strike and you're out. Editorial 282
Strode, Cal. 911
Stuart Croasdale & Co. 506
Study Butte, Tex. 951
Stull, R. T. 867
Submarine, Wash. 313, 633
Sub-Nigel 429
Sullivan, B. C. 111, 671
Sullivan Mng. Co., Idaho 507
Sully, J. M. 743
Sulphur—China. Smelting (Slessor) *695
—Durango 170
—Germany 254
—Gulf Coast (Wolf) ..... 4 p. *606
—Italy—Production (Geissel) 1913-20. 138
—Production 1902-1919 608
—Sicily 977
—Upper Silesia, Poland 989
Sulphur-Dioxide—Leaching in Miami dist., Ariz. 672, 687
Sulphur on Spanish Main. Editorial. 363
Sulphur producers 100
Sulphuric acid—Upper Silesia, Poland. 989
Sultana, Colo. 713
Sultana Mng. Co., Cal. 151
Sumatra—Petroleum ..... 5 p. 939
Summitt, Colo. 313
Sunbeam, Ariz. 995
Sunday Lake, Mich. 194
Sundt, F. A. Flotation froth 983
Sunnyside, Colo. 1034
Sunset Co. vs. Hudson 354
Sunshine Mng. Co., Idaho 71
Superior & Boston Ariz. 832, 989, 1072
Superior Copper Co. 384
Superpower Survey ..... †903
Support the Institute. Editorial 401
Sur, F. J. S. 946, 1027
Sure Pop, Ark. 555
Survey. See also "U. S. Geological Survey."
Survey, Geological—Idaho 185
Surveying—metric scale 101
—Slide rule in calculations (Keating). 822
—Transit tripod leg clamp (Poston). 739
Swallow's Nest, Mont. 580
Swansea, Ariz. 713, 794
Swartley, A. M. 383
Swasey, A. 106
Swatow—Lead Mining 1048
Swauk Mng. & Dredging Co., Ore. 71
Sweden—Iron-ore 896
—Zinc 236
Sylvanite, Ont. 631, 552, 230
Sylvanite, Ore. (Kellogg) ..... 2 p. *548
Sylvanite Mng. Co., Wash. 33
Syria—Mining conditions 453
Syrian mineral resources (Toll) ..... 5 p. *846

T

Tabling—Roughing concentration (Wiard). 326, 369, 411
Tabowie, Korea 150, 472
Tacna-Arica problem. Editorial 481
—Street on 604

Page

Tacoma, Wash. 512
Tadanac, B. C. 229
Tailing air lift of Chino Copper Co. (Anderson) ..... 6 p. *806
Tailings—Silver at Coniagas (Cawley) 890
Tailings retreatment on Rand 815
Tajo, Chih. 271
Talamantes, Chih. 271
Talc ..... †464
—California production 338
—Domestic properties 373
Talisman Cons. Ltd., New Zealand 348
Tally, R. E. 1029
Tamarack, Mich. 314
Tamarack & Custer, Idaho *874
Tam O'Shanter, B. C. 149
Tampico oil district conditions 381
Tap for matte settler (Gillis) *300
Tar Baby, Utah 749
Tarbox, Mont. 833
Tariff. See also names of Minerals, etc.
—Canada—Copper rods 11, 387
—Comment on Editorials 564
—Congress and, Editorial 201
—Drill steel wanted 429
—Fordney Bill 28, 67, 109, 142, 147, 189, 273, 470
Hayden on 226
Rhodes on 227
Sheldon on 84
—Tungsten (Stoddard) 445
Tariff advocate speaks (Wedekind) 165
Tariff for National Defense. Editorial ... 202
Tariff on Minerals (Pawl). Comments ... 4, 165, 204, 404, 445
Tariff on minerals and metals. Editorial . 81
Tariff on monazite. Editorial 202
Tasmania—Osmiridium 55
—Zinc—Electrolytic recovery 499
Tata Iron & Steel Co. 909
Tawara, K. 383
Tax exemption in Mexico. Editorial 562
Tax situation. Editorial 41
Taxation—American Mining Congress viewpoint 703
—Arizona 353
—Bill introduced 551
—British Columbia 791, 871, 991
—Burden. Editorial 961
—California—Oil (Beal & Moran) 342
—Chisholm, Minn. 307, 674
—Gold—Excess profits 429
—Haig, R. M. on ..... 2 p. 1011
—Hibbing, Minn. Editorial 683
—Mexico import and export 306, 382
—Mexico—Silver 384
—Michigan 314, 628, 715
—New Mexico 749
—Oklahoma 750
—Ontario 285, 791
—Petroleum Bill 551
—Revision of Bill 908
—State and Local. Editorial 382
—U. S. Mining Bill revision 746
—Utah 389
Taylor, A. Death 145
Taylor Engineering Co.—vs. G. Wingfield. 511
Technical Societies and Journalistic adventure. Editorial 82
Teck Hughes, Ont. 229, 552, 590, 991
Tecolotes, Chih. 271
Tehidy minerals 870
Teller, Colo. 952
Temiskaming Mng. Co., Ont 310, 552
—Annual report 1920-21 756
Temiskaming & Northern Ont. Commission. 1032
Tennessee—Industrial conditions 751, 955
Tennessee Coal Iron & R.R., Ala. 628, 954
Tennessee Copper & Chemical Corp.—report 1920 39
Terrible Edith, Idaho 230
Terrones, A. Mineral resources Durango .. 6 p. *168
Terry, J. T., Jr. 186
Texas—Petroleum.
Deep Wells (Wolf) 141
Pierce Jnct. 421
—Red River boundary settled 1064
Texas Gulf Sulphur Co.. 66, 179, 607, 869, 1070
—Union Sulphur Suit 868
Texas Production Co. 142
Textbook of Geology (Grabau) ..... †662
Thacher, A. 585
Thanksgiving, N. M. 34
Thawing Device for Harz jigs (Kemp) *900
Thayer, W. N. Origin of petroleum 724
Thomas Creek Placers, Idaho 1074
Thomas, K. 106, 743, 905
Thomas, S. J. 69
Thomas, W. R. 64
Thompson-Krist Co., Ont. 748
Thompson, S. C. 64
Thompson, W. B. 787
Thomson, E. 905
Thomson, F. A. 185, 223
Thorne, Minn 1035
Thornton, E 787
Thouderbolt Copper Mng Co. Ariz 312
Thum, E. E. Side-charging reverberatory furnaces 924
Tiebaghi, New Caledonia 69, 150
Tigre, Mex. 951
Tilden, Mich. 114
Timber Butte Mng. Co., Mont. 953
Timber decay in return air courses (Harrington) ..... 4 p. *565
Timber, Mine—Framing 539
Timber waste (MacGregor) 1021
Tin—Burma 1048
—Cornish industry 587, 789, 870
—Durango 170
—Dutch East Indies 669
—Federated Malay States 950, 1048
—Market. Editorial 561
—Straits Settlement 453
Tin Boom, So. Dak. 474
Tin resources of British Empire (Penzer) †24
Tintic District, Utah—Shaft sinking record *376

Page

Tintic Milling Co., Utah 231, 952
Tintic Standard, Utah 33, 152, 273, 555, 664, 714, 875, 952, 1073
—Dividend 279
Tioga, Minn. 154
Tiro Lease, Ariz. 672
Titaniferous ores—Use 577
Tobelman, H. A. 987
Toby Creek Mng. Co., Ltd., B. C. 310
Tod, F. 383
Tod-Stambaugh Co., Minn. 34, 948
Toll, I. M. Mineral resources in Syria .. 5 p. 846
Tom Reed, Ariz. 192, 272, 832, 1072
Tomboy Gold Mines Co., Ltd.—Report 1920-21 1039
Tombstone, Ariz. 347
Tombstone Co-operative Mill Co., Ariz. .. 389
Tonopah Belmont, Nev. 32, 873, 953, 1073
Tonopah Divide, Nev. 232, 434, 595, 795, 873, 911, 994, 1073
Tonopah Extension, Nev. 32, 72, 151, 232, 391, 592, 953
—Cash Boy Suit 434, 988
—Dividends 279, 756
Tonopah Mng. Co., Nev. 795
—Annual Report 1921 1079
—Dividends 756
Tonopah Oriental Mng. Co. vs. Donohue ... 32
Tonopah Placers Co.—Report 1920 1079
Tool waste (MacGregor) 861
Toole Field, Mont.—Gold rush 993
Toric, B. C. 511
Torreon, Cia. Metalurgica, Chih. 1069
Torreon, Coah. 631, 1033
Tough Oakes, Ont. 229, 951
To what information is the stockholder entitled? Editorial 122
Townsite, Mich. 154
Townsite, Ont. 631
Toya Valley Sulphur Co., Tex. 951
Trail Mng. Co., B. C. 387
Training the miner to mine. Editorial .. 602
Transportation—Arizona and Sonora Railway project 226
—British Columbia 111
—Chile 97
—Coeur d'Alenes 146
—Colorado 912
—Colorado & Southern 1071
—Duluth 1029
—Editorial 1001
—Idaho 231
—Mexico 311, 338, 1045
—Moffat Railroad, Colorado 1071
—Mule Haulage (Boericke) 853
—Nevada 187
—Ontario 112, 310
—Railroad tonnage 1920 67
—Railroads and trucks. Editorial 722
—Southwest 827, 1028
—Utah, Nevada and California 832
Transporting dredge material at Dayton, Nev. (Young) ..... 2 p. *374
Transvaal—Gold—Production 38, 198, 671, 879, 1069
—Labor 552
Transvaal, Chih. 431
Transvaal tin deposits ..... †464
Traveling in Morocco (Hutchins) ... 3 p. *1006
Trethewey, Ont. 631
Trezona, C. 145
Tri-State District. See "Kansas," "Missouri," "Oklahoma."
Trinity, Ariz. 151
Triumphs of Journalism. Editorial 281
—Comment 364
Trojan, S. D. 1072
Truax Picketing Case 1030
True Yarn, A. Editorial 962
Tube milling—South Africa 1008
Tucson, Colo. 1034
Tueson & Amole Mountains ..... †104
Tungsten ..... †344
—Bolivia—Unique deposits (Hess) ... 60, *492
—Tariff 470
Tungsten-bearing deposits possibilities (Stoddard) 445
Tunnel driving ..... †545
Tuolumne Copper Mng. Co., Mont. ... 154, 231, 593, 633, 672, 749, 833, 875, 993, 1034, *1074
Turkey—Politics and mines 761
Tuthill, S. S.—Zinc tariff 284, 350
Tyopa (McCarthy) 816
Tyrrell, J. B. 266, 707, 905

U

Underground Loading ..... †903
Underground Mechanical Development. Editorial 321
Underwriters' Land Co. Okla.. 514, 555, 715, 750
Unemployed. Editorial 521
Union, B. C. 831
Union Mining Co., Ont. 352
Union Sulphur Co., La. 8, 606
—Government Tax Suit 591
—Texas Gulf Suit 868
United Comstock, Cal. 673
United Comstock Mines, Nev. ... 72, 151, 362, 473, 513, 673, 911
United Eastern, Ariz. 272, 1072
—Dividends 279, 756
United Gold Mines, Col. 514
United Gold & Silver Mng. Co., Ariz. 70
United Kingdom—Zinc situation 236
United Metals Co., Idaho 833
United Mines Co., Guiana 31, 388
United States—Bauxite Production 294
—Cadmium Production 1910-20 38
—Chromite 1920 290
—Copper Smelter production 1910-1921 ... 118
—Fuller's Earth production 1920 410
—Gold 1920 959
—Graphite (Miller) ..... 6 p. *207

Page

United States—
—Magnesium production, Uses 460
—Manganese ore production 1914-18 5
—Oil-Shale; Status of Industry 183
—Petroleum Production 1920, 1921 222
—Platinum Market 1900-1921 478
—Platinum Production 1920 98
—Silver 1920 959
—Silver exports and imports 278
—Zinc Market Study 1921 158
—Zinc Production 1919-20-21 479
U. S. Geological Survey—Annual Report .. 946
—Appropriations 949
—Census Bureau Assistance 990
—Division of Geology 789
—Utah Work 1066
—World's Water Power Resources 908
U. S. Geological Survey in War (Smith) .. 3 p. 892
U. S. Gypsum Co., S. D. 1072
United States Metals Co., Ore 1074
U. S. Mineral Resources ..... †143
U. S. Mining Co., Utah 152
U. S. Potash Producers' Assn.—German Syndicate Contract 670
U. S. S. & R. Co., Hidalgo 310
U. S. S. R. & Exploration Co., Ariz. 951
U. S. S. R. & M. Co. 33, 151, 951
—Dividends 279, 756
U. S. Steel Corp., Ala. 954
—Pittsburgh Plus case 1030
United Verde, Ariz. 272, 713, 873
—Dividends 639
—Precipitation 631
United Verde Extension, Ariz. *609, 832, 873, 995
—Dividend 959
—Gallup, N. M., purchase 627
—Guniting 620
—Smelter Smoke suit 354, 639, 913, 951
United Zinc Smelting Co.—Manhattan mine. 555
Universities and Commencements 802
University of Washington—Mines Laboratory *468
Unprofessional Practice. Editorial 883
Upside Down. Editorial 323
Urquhart, L. Russo-Asiatic Consolidated Negotiations 711, 744
Use of Powdered Fuel Under Steam Boilers. †184
Utah—Accidents—Ore Dressing Plants 409
—Freight Rates 354
—Geological Survey Work 1066
—Industrial Conditions 751, 955
—State Geologist 947
—Taxation 389
Utah Apex, Utah 152, 1034
—vs. Utah Consolidated 390, 433, 467, 672, 947
Utah Consolidated, Utah 152, 1034
—vs. Utah Consolidated ... 390, 423, 467.
Utah Copper Co., Utah 152, 354, 994
—Dividends 39, 639
—Report second half 1921 397
—Tailings dump dispute 193
—vs. Salt Lake County 672
Utah Metal Mine Operators Institute Meeting 625
Utah Mineral Resources ..... †985
Utah Minerals ..... †741
Utah Power Co. 308
Utah-Salduro Co. 433
Utah School of Mines—Research Work 424
Utah Society of Engineers 1085
Utah Steel Corp. 267, 473, 592
Utah Workmen's Compensation Act. 473
Utica, B. C. 270, 831, 871
Utica, Minn. 232
Utley Zinc, Colo. 1034

V

Value of Gold. Editorial 83
Van Derlip, C. L. Death 1066
Van der Naillen, R. L. 192
Van Ness, Cal. 911
Van Ness, W. W. 305
Van Roi, B. C. 191
Van Ryn Deep, So. Africa 830, 1031
Vanadium ..... †792
Vanadium in Arizona (Allen and Butler) .. †820
Vaughan, T. W. 266
Vaupell, C. W. 547
Vedler, W. R. 1066
Vegetation and Mineral Deposits (Harper). *693
Veins—Dip Determination at Depth *261
Venezuelan Petroleum Industry in 1920 (Redfield) ..... 4 p. *789
Ventilation—Operating Doors 606
—Powder Smoke in Tunnels (Weeks & Wolflin) *699
Ventilation (Rice) 1021
Verde-Apex Copper Co., Ariz. 232
Verde Central Mines, Ariz. 192, 432
Vermillion, Mont. 154
Verona Mng. Co., Mich. 1071
Vertical Boundaries in British and Latin America. Editorial 842
Victor, Utah 473
Victoria Falls & Transvaal Power Co. 667
Victoria, Utah 433
Victory Divide, Nev. 391
Victory, Ont. 712
View Concerning Licensing Business Man. Editorial 363
Vindicator, Colo. 192, 272, 312, 874
Vinegar Hill Zinc Co. 834, 913, 1035
Vipond, Ont. 991
Volatilization, Chloridizing (Layng) ... 5 p. 764
Volcano, N. M. 713, 951

W

Wages see "Labor" 225
Wages and Commodity Prices. Editorial .. 563
Wagner, W. H. 64
Wahl, R. L 666

Page

Waihi Gold Mng. Co., Ltd.—Report 1920.. 72
Waihi Grand Jnct. Gold Mng. Co. 429
Walbert Oil Co., Ark. 23, 984
Walker, A. L. 626, *787
Walker, M. R. Engineers a la mode..... 84
—Mining in Argentina .....4 p. *291
Walker Mng. Co., Cal. 473
Walker, R. T. 383
Walker, T. L. 346
Wallace Mines, B. C. 910
Wallace, R. C. 64, 466
Wallapai M. & Dev. Co., Ariz. 951
Wallaroo & Moonta M. & S. Co.—Year 1920-21 879
Walter, A. S.—Mining & Smelting Situation in Colorado 125
Walters, E. H. 26
Walton Mines Co., Wash. 392
Wanakah, Colo. 952
Wanted—A Hoist Engineer. Editorial ... 243
War Eagle, Ore 230
War Minerals Committee (Westervelt) 500
War Minerals Relief Act..28, 67, 227, 268, 309, 870, 1030
—Fall proposes amendments 148
War Minerals Relief Anticlimax. Editorial. 2
—Comment 564
War Minerals Relief Bill 870, 828 908
War Minerals Relief Claimants Viewpoint (Maltby) 204
War Minerals Relief Commission (Moore) 110, 500, 570, 651, 730
—Dolbear case settled 1069
War Problems in Minerals 500, 570, 651, 730, 892
—Comments 965
Ward, H. R. 626, 787
Ward, W. F. 64, 666
Warren, Copper Deposits (Mitchell) ..4 p. *246
Warren, J. J. 111
Wasapika, Ont. 150
Wasatch Mng. Co., Colo. 952
Wasatch, Utah 231
Washington—Industrial Conditions ..751, 828, 955
—Oil Possibilities 183
Washington, Idaho 313
Washington Mineral Resources .....†662
Washoe plant, Mont. 71
Waste in industry .....†825
Waste in Phosphate-rock Production (Lloyd) 84
Water Jacket—Scale forming matter remedied 90
Water Skip—Fremont Mines *181
Water Supplies Purified (Lanza) 55
Water-Tight Underground Dam (Bateman). 900
Waters, A. L. Death 186
Watson, E. J. 94
Way of Transgressor Is Hard. Editorial.. 843
We Must Stand For Progress. Editorial.. 841
Weardale Lead Co. 909
Wearne, W. 666, 905
Webb, C. Death 787
Webber, M. 266, 626
Wedekind, E. H. Minerals Tariff 165
Weed, L. B. 305
Weeks, W. S. Air Receiver Calculations. 885
—Removing Powder Smoke in Tunnels....*699
Weimer Copper Co., Idaho 231
Welch, H. K. 266
Welch-Worland Mines Syndicate, Colo..... 952
Weld C. M. 64, 145
Welding—Portable Acetylene Generator (Baker) *779
Welfare—Butte District 1028
—Dust Prevention and Ventilation vs. Lead Poisoning 569
—Mining 345
—Port Pirie 589, 602
—Rhodes on 465
Welfare Work in the Coeur d'Alenes (Power) .....2 p. *295
Wellington, Minn. 232
Wells, B. 514
Wells, E. H. 547
Wenstrom, O. 64
West Africa—Mining Interest 909
West Butte Mng. Co., Mont. 474
West Chapin, Mich. 793, 1071

Page

West Dome Oil Co., Mont. 661
West Dome, Ont. 512
West End Consolidated, Nev....473, 592, 749, 994, 1073
West Virginia—Cobalt & nickel discovery.. 114
Western Australia .....†1025
Western Chemical Co. 385, 714
Western Crude Oil ..... †24
Western Milling Plants .....†786
Western Union Mng. Co., Wash. 392
Western Utah Copper Co. 433
Western Zinc Oxide Co., Colo. 1034
Westervelt, W. Y. War Minerals Committee 500
Weston, E. M. South African Platinum.. 815
Weston, G. S. 787
What About Zinc? Editorial 202
What Can Be Done to Revive the Mining Industry? Editorial 1041
Wheeler, Cal. 1073
Whetsel, R. V. 145
Whitaker, O. R. 266
White, D. 426, 1027
White Hills, Ariz. 748
White Hope, Rand 551
White, Okla. 834
White Pine Extension 384
White Pine, Mich. 792
White Point Oil & Gas Co., Tex. 701
White River Manganese Co., Ark. 194
White Rock, Ont. 150
Whitecloud, Colo. 952
Whitehead, J. J. Retailing Copper and Brass 763
Whitley, C. W. Death 626
Why Mines Close Down. Editorial 322
Why the Mining Engineer? Editorial 441
—Comment (Eyoub) 605
Wiard, E. W. Preliminary Roughing Concentration by Sorting, Jigging and Tabling 326, *369, *411
Widdowson, E. W. 871
Wild Horse Creek Placer Gold Mng. Co., B. C. 629, 671
Wildes, F. A. 106
Wilfley Table 577
Will the Gold Standard Survive? Editorial. 281
Williams, C. E. 466
Williams, F. P. 707
Williams-Harvey Co. Cottrell Installation.. *446
Williams, H. E. 45
Williams, J. W. 867
Williams, P. Exploration Fundamentals.. 645
Williamson, S. 743
Willis, S. L. 787
Wilson, C. Mining Laws .....†702
Wilson, E. F. Drilling Results and Dredging Returns 805
Wilson, R. G. 64
Wilson Mng. & Smelt Co., Mont. 390
Winchell, H. V. 305, 324, 426
—Defends Apex Procedure .....2 p. 163
Wingfield, G. Vs. Taylor Engineering Co.. 511
Wingo, O. 189
Wireless—Fort. Norman Oil 505
Wisconsin—Industrial Conditions 955
Wisconsin State Industrial Commission ... 834
Wisconsin zinc-lead district 751
Witwatersrand Power Supply (Edward).. 667
Wolf, A. G. 426
—Deep Oil Wells in Texas 141
—Gulf Coast Sulphur .....3 p. 606
—Measuring Depth of Well with Transit.. 739
—Salt Mining in Louisiana .....5 p. *6
—Bucketshoppy 697
—Copper Situation from Investment Standpoint 677
—Mining & Metallurgy 85
Wolf, J. D. Flotation Process Suit....789, 827
Wolflin, G. L. Removing Powder Smoke in Tunnels *699
Wolfram, Bismuth, Molybdenite .....†865
Wollastonite—Market 698
Wolverine, Ariz. 272
Wolverine, Mich. 194, 750, 792, 1035
—Report 1921 397
Wolvin, R. W. 106
Wood, J. W. 194
Wood Kirkland Ont. 299
Wood, T. S. Death 1066

Page

Woodbridge, D. E. Iron Ore Deposits on Belcher Islands .....4 p. *251
Woodbridge, Minn. 674
Woodhull, M. V. Death 224
Woodlawn, Utah 193, 231
Woodward Iron Co., Ala. 628
Wolf, H. J.—Anaconda Copper Shares....1077
Woolsey, W. J. *547
Words, Words. Editorial 403
World Mineral Policy Platform. Editorial. 1
World Trade—Inter. Chamber of Commerce. 223
World's Fair, Ariz. 192
Wright, I. L. 743
Wright, L. A. 145, 707
Wright, L. B. Geological Methods of the Homestake .....3 p. 886
Wright, W. H. 987
Wright-Hargraves, Ont. 112, 229, 352, 631, 831
Wyandotte, Cal. 391
Wyoming Mining Laws .....†184

Y

Yak Tunnel, ... 868
Yale Mng. Co., Col. 474
Yankee Boy, Idaho 230
Yankee Hill Gold Dredging Co., Cal. 232
Yavapai Gold-Silver Mng. Co., Ariz. 748
Yarde Kerri, So. Africa 430
Yeatman, P. Mining Investments 837
Yellow Bird Silver Mng. Co., Ariz. 951
Yellow Rose, Calif. 911
Yoshizawa, K. 787, 867
Young, E. B. *346
Young, G. J. Air Lift Calculations 861
—Belt, Gear and Chain Drives for Grinding Mills 969
—Dredge Construction at Dayton, Nev...6 p. *91
—Drilling 340, 379, *420, *538
—Gold mining at Carson Hill 725
—Laboratory Instruction in Ore Dressing.. 982
—Metallurgical Progress, Shasta Co., Cal.. 4 p. *286
—Recent Advance in Design of Gold-Dredge Bucket Lips 932
—Spillage and Dust Losses 938
—Transportation Dredge Material at Dayton Nev. 20, *374
Yuba Construction Co., Col. 513, 713
Yukon. ..... †24
—Gold Production 591
Yukon Gold Co., Alaska 191, 353
Yukon Gold Co., Cal. 232

Z

Zakany, J. 346
Zalate, Dgo. 553, 831
Zalinski, E. R. 987
Zeigler, W. L. 1066
Zenith, Minn. 392
Zinc—Australia Concentrates 829
—Durango 171
—Dust Evaluation 900
—Electrolytic Possibilities .....2 p. 663
—Foreign industry 236
—Freight Rates 1033
—Improvements in Metallurgy 1065
—Industry
Bain discusses price 148
—Marketing, Editorial 561
—Marketing, Expansion 948
—Prices 1921 .....559, 838, 1078
—Tariff 284, 350, 428
Editorial 202
—Tasmania—Electrolytic Recovery 490
—U. S.—Market study 1921 158
—U. S.—Production 1919-20-21 479
—University of Missouri Building 869
—Upper Silesia, Poland 989
—World Industry 798
Zinc Recovery 338
Zinc Sheets 359
Zinc Smelting (Buskett) 409
—Comment, O'Harra 605
Zinc Statistics. Editorial 1002
Zirconium ..... †741
Zoffmann, G. F. 346
Zuma, Utah 875